

NOVEMBER 1961

*National*  
**SAFETY  
NEWS**

A NATIONAL SAFETY COUNCIL PUBLICATION

## Can Machines Teach Safety?





# A-OK

## and in orbit

THE NEW PROFILE

# 300 STEEL TOE

Here's the secret —  
The slim, trim and safe  
#300 STEEL TOE

The  
smarter-looking  
tapered steel  
toe for  
real dress  
or casual  
shoes

**SAFE ON THE JOB — SMART OFF THE JOB** is the unanimous verdict reached by executives, foremen, and workers alike, who are wearing safety shoes with the protection of the new 300 tapered steel toe.

This new slim, trim profile in safety shoes has really caught on. Wearers find them equally protective in the plant or for such precarious home jobs as using the power lawn mower. They like the sleek, smart, comfortable dress or casual styles being offered by all safety shoe suppliers.

And remember — the style 300 is **SAFE**. Meets all ASA requirements, because it is made from the best steels, austempered for greatest possible protection. Make sure that your men know about the smart shoe styles with the new 300 steel toe. They'll all agree — "they're A-OK!"

### SEND for FREE POSTER

Designed especially for bulletin boards, this poster will help you to educate your workers to wear safety shoes for foot protection on the job.

WRITE FOR YOURS TODAY

Manufacturers of 19 styles of steel toes all **AUSTEMPERED** for maximum protection

# Safety Box Toe Company

812 STATLER BUILDING • BOSTON

CIRCLE 1 ON READER CARD



**feet stay  
warm,  
dry, safe**

Here's a fully insulated 8" boot that keeps feet warm, dry and safe even in the most severe weather conditions. Hy-Test has combined molded construction with water-repellent WHANG-LEATHER to give workers the most waterproof leather SAFETY boot on the market today. WHANG-LEATHER is made by International Shoe Company's exclusive tanning process that is highly resistant to acids, alkalis, perspiration and water penetration. The leather is soft and pliable and retains its properties even beyond a more than

normal period of wear by applying WHANG Leather Conditioner which is provided free with each pair. The H686 also features a cushion arch as well as a padded, rolled top-edge for added comfort. Be sure your men have the best possible protection for those rugged jobs where extreme weather conditions are a factor. Order H686 only from HY-TEST SAFETY SHOES, Division, International Shoe Company, 1509 Washington Ave., St. Louis 66, Mo. ... 2224 N. Tenth St., Philadelphia 33, Pa.

**H686**... Walnut Whang upper with Brown Resist-Oil Grit Sole and Heel, Molded Construction (soles vulcanized to uppers), leather lined, Bol Tan cushion arch, Dacron stitched, Director last plus the famous Anchor Flange Steel Box Toe.

C 7-12; D, E, EE 6-12

- **FREE!** Tube of WHANG Leather Conditioner with each pair.

# HY-TEST

**WHANG LEATHER**



## Safety Shoes

CIRCLE 4 ON READER CARD



A NATIONAL SAFETY COUNCIL PUBLICATION

VOL. 84, NO. 5

NOVEMBER 1961

### SPECIAL TRAINING SECTION

- 19 Safety Sue
- 20 Can Machines Teach Safety?—*Peter W. Hanen*
- 22 Profits at the Conference Table—*Paul L. Ryan*
- 23 They Train with CCTV
- 24 Council Surveys Supervisor Training
- 26 Indirect Approach to Employee Communications
- 52 1962 Safety Training Institute Schedule
- 56 Top Student

### FEATURE ARTICLES

- 16 Luck or Genius? (Diary of a Safety Engineer)—*Bill Andrews*
- 27 Model Fires Probe Dry Chemical Powders
- 29 Welding Machines Require Constant Vigil
- 32 Man with a Mission
- 35 Industrial Skin Diseases—*Data Sheet 510*
- 116 Accidents Love People—*Robert D. Gidel*

### DEPARTMENTS

- |                                    |                          |
|------------------------------------|--------------------------|
| 6 Consultation Corner              | 58 Coming Events         |
| 8 Accident Barometer               | 60 Fire Tips             |
| 10 Safety Valve                    | 64 Off the Job           |
| 14 Wire from Washington            | 70 Around the Compass    |
| 18 Small Business and Associations | 79 Library               |
| 30 Ideas that Worked               | 91 Keeping Posted        |
| 34 According to Z-16 . . .         | 117 New Safety Equipment |
| 48 Personals                       | 125 News Items           |

# NATIONAL SAFETY COUNCIL

Chartered by the  
Congress of the United States



HOME OFFICE  
425 North Michigan Avenue, Chicago 11

#### EDITORIAL STAFF

EDITOR: James D. Saul  
ASSOCIATE EDITORS: Stuart K. Hopkins  
Peter W. Hanen  
TECHNICAL DIRECTOR: Roy Benson  
CONSULTING EDITOR: Carman Fish

CONTRIBUTING Hugh McCahey  
EDITORS: H. G. Miller  
M. E. Petersen  
H. N. Rosenfield  
Paul E. Sheppard  
L. C. Smith  
Jennie Spadafora  
Lois Zearing

EDITORIAL DIRECTOR: Robert L. Meyer

PUBLICATIONS DEPT.  
MANAGER: Jack Horner

#### ART STAFF

DIRECTOR: Ralph Moses  
COVER: William Wendland  
PHOTOGRAPHER: James B. Lehman

Statements and opinions advanced in signed articles and advertisements are personal expressions of the authors and advertisers, not necessarily those of the National Safety Council.

NATIONAL SAFETY NEWS is published monthly by National Safety Council. Copyright 1961 by National Safety Council. Printed in U. S. A. Second class postage paid at Chicago, Illinois, and at additional mailing offices. Subscription rates: \$7.10 a year. Single copies \$1.10. All prices subject to 10 per cent discount to National Safety Council members. Quantity prices for yearly subscriptions and single issues on request. Member Audit Bureau of Circulation.

### THE COVER



The teaching machine represents an innovation in safety training methods. It provides the capabilities for mass teaching, and the benefits of individual advancement. The machine shown, a Lec-tron Mark I, requires the student to respond to controlled information, lets him advance at his own rate, and corrects his deficiencies automatically.

38,000 copies of this issue were printed

CIRCLE 5 ON READER CARD →



# two

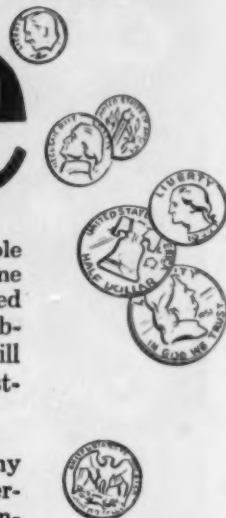
## WINTER LINERS

# for the price of One

As safety men, abreast of the market, you know that this year it's easy to find Winter Liners selling at lower prices than those made by Bullard. Chances are you expected us to offer a competitive line of cheap liners. The fact is, we've done just the opposite. This new line of dark green Bullard Winter Liners is actually better and more costly to produce. The fine quality of each detail in their fabrication is assurance your Winter Liner investment is pro-

tected... that you'll get at least double the life from Bullard Liners. Examine one closely. Every seam is lock stitched... they can't unravel. All outside fabrics are extra heavy water repellent drill... lined with pre-shrunk, flame resistant fleece.

This is why when matched against any price competition we can say with certainty that Bullard gives you two Winter Liners for the price of one.



#70-EL-33



#70-EL-50



#70-WL-1K



#70-WL-2K

### DRILL WINTER LINERS

Made of dark green, pre-shrunk, heavy duty drill that is water repellent and fire resistant. Top quality flannel lining is pre-shrunk. These liners are extra long to protect wearer's neck. All fittings are plastic. #70-EL-33 fastens with tie cords and #70-EL-50 with elastic chin strap that has plastic hook and eye. Available in three sizes:  
Small 6% - 6%      Medium 7 - 7%      Large 7% - 7%

### KNIT WINTER LINERS

Made of dark green Orlon, these stretch-on knit liners fit snugly over the head. #70-WL-1K, Staker's type, fits over neck and ears. #70-WL-2K is an extra light weight liner. May be used in conjunction with heavier liners.

Both are Bullard exclusive

Write for price lists **E. D. BULLARD COMPANY**  
SAUSALITO, CALIFORNIA



the coffee's steaming hot



# Incredible new Lily<sup>®</sup> cup

LILY CHINA-COTE<sup>®</sup> *plus*....FIRST TRULY INSULATED

## VENDING CUP TO IMPROVE EMPLOYEE COFFEE SERVICE

■ Unique heat-resistant lining of foam polystyrene makes Lily China-Cote Plus the ultimate in vending cups.

■ Here is the vending cup for the employer who knows that quality in every detail pays off in employee satisfaction. Lily China-Cote Plus cups are heat-resistant...so even steaming hot coffee is comfortable to hold. Just enough heat is transmitted to remind the employee the beverage is hot.

■ All drinking surfaces are completely coated, including the entire rim section, so you get only the full, rich flavor of steaming hot coffee. Cups have extra-lasting rigidity...won't soften or distort under high temperatures. They reduce spillage because they're cooler to handle. The pure white interior surface gives the cup a fine quality look.

■ See that new Lily China-Cote Plus—the

first truly insulated vending cups are in all the vending machines in your plant. They give better performance...more safety...greater satisfaction.

■ Send coupon for complete information and free 10-Second test at your desk.

Lily-Tulip Cup Corporation, Dept. CPSN-1161  
122 East 42nd Street, New York 17, New York

Name

Company

Street

City  Zone  State

**LILY-TULIP**

U.S. REG. U.S. PAT. OFF.



# CONSULTATION CORNER

Questions on accident prevention, fire protection and occupational hygiene are answered by mail. A few are selected for publication

By L. C. SMITH, Industrial Department, NSC

## Tests for Accident-Prone Persons

**Question:** Do you know of any tests that have been developed to select safe workers? We have heard that several companies have developed such tests. We would appreciate any information you have on this subject.

**Answer:** What you are looking for, no doubt, is a test or series of tests to determine if a person is accident-prone. While this is a subject on which there is much disagreement, there are some basic points of agreement that are good to know.

First, we know of no valid tests to determine if a person is accident-prone. Several companies have used tests of various kinds to determine safety awareness in prospective employees. Others use specialized tests to determine personality traits. However, most will agree there is no test or series of tests that will tell you if a person is accident-prone.

A few years ago it was thought that certain people fell into this category. Researchers today have discovered the small group of people who have the most accidents is not a fixed group, but a shifting one, with new people becoming accident-prone and others getting over it. They also reached the important

conclusion that *anybody can become accident-prone during periods of stress and strain.*

We must remember that many persons who are having more than their share of accidents may need new glasses or better job instructions to make them safe workers. Good preplacement physicals are important. They help to fit the man to the job. Likewise, a good testing program helps along these lines. However, tests alone should not be relied upon to select safe workers.

## How Much Weight Will a 55-Gallon Drum Support?

**Question:** We have been in the habit of supporting loads with empty oil drums. The actual direct load on the drum would be about 800 pounds. Could you tell us what load (compression) a standard empty 45-gallon oil drum would bear before collapsing?

**Answer:** First, it should be emphasized that the use of empty 55-gallon oil drums (45 imperial gallons—this letter came from Newfoundland) as support members is not recommended. Such drums are not designed to be used as pressure vessels\* or as support members. In addition to not being designed for this purpose, drums often become rusted, dented, and otherwise weakened, which would influence the amount of weight each drum could support in compression.

Since these drums are not designed for that purpose, you could get into some serious problems if you ever had an accident due to the collapse of one of these drums. We know that such drums are used for this purpose and no doubt will be for years to come. However, we feel it is our duty to call your attention to the hazards involved.

\* "Air Pressure In Oil Drums" appeared in the *Consultation Corner*, NATIONAL SAFETY NEWS, in October 1958.

## QUEST FOR THE UNUSUAL

This page represents a clearing house for the most unusual questions in the safety field. We are willing to search the entire U.S. for the answers. This month we went to a drum-testing laboratory to answer a letter from Newfoundland. Whenever you are in need of a solution to one of those difficult or tricky problems, call on us.

## NATIONAL SAFETY COUNCIL

OFFICERS, 1960-61

### CHAIRMAN, BOARD OF DIRECTORS

WILLIAM H. LOWE, Treasurer, Inland Steel Co., Chicago.

### CHAIRMAN, TRUSTEES, AND PRESIDENT

HOWARD PYLE, National Safety Council.

### PRESIDENT EMERITUS

NED H. DEARBORN, Titusville, Pa.

### VICE PRESIDENTS

#### For Farms

HARRY L. POWELL, Assistant to Vice President, The Goodyear Tire & Rubber Co., Akron, Ohio.

#### For Finance

J. H. SCHWARTEN, Vice President for Finance and Treasurer, City Products Corp., Chicago.

#### For Homes

DR. GEORGE M. WHEATLY, Third Vice President, Metropolitan Life Insurance Co., New York.

#### For Industry

WALTER E. MONTGOMERY, Safety Director, Quebec Asbestos Mining Association, Montreal, Canada.

#### For Labor

LOYD D. UTTER, Director, Industrial Health and Safety Division, United Automobile Workers, Detroit, Mich.

#### For State and Local Safety Organizations

H. G. MANGELSDORF, Standard Oil Co. (N.J.), New York.

#### For Membership

JOHN L. GILLIS, Vice President, Monsanto Chemical Co., St. Louis, Mo.

#### For Motor Transport

MARK ROBESON, Vice President, Yellow Transit Freight Lines, Kansas City, Mo.

#### For Production

ROBERT R. BURTON, Senior Vice President, Kenyon & Eckhardt, Inc., New York.

#### For Public Information

CHARLES W. FERGUSON, Senior Editor, The Reader's Digest, Pleasantville, N. Y.

#### For Research and Education

DR. WILLIAM P. YANT, Director of Research, Mine Safety Appliances Co., Pittsburgh, Pa.

#### For Schools and Colleges

DR. LOWELL B. FISHER, Chairman, North Central Association of Colleges and Secondary Schools, University of Illinois, Urbana, Ill.

#### For Traffic

REX M. WHITTON, Federal Highway Administrator, Bureau of Public Roads, Washington, D.C.

#### For Women

MRS. RAYMOND SAYRE, Ackworth, Iowa.

### EXECUTIVE VICE PRESIDENT

G. C. STEWART, National Safety Council.

### GENERAL MANAGER

W. G. JOHNSON, National Safety Council.

### SECRETARY AND TREASURER

R. L. FORNEY, National Safety Council.

National Safety News, November, 1961



# CESCO—Right Before Your Eyes!



*Introducing a New Idea in Eye Protection!*

## CESCO Stylist Metal Frame Glasses

**with comfort, style and safety features everyone will like!**

New CESCO Stylist Metal Frame glasses have features that will appeal to all. Both men and women employees will like their good looks and comfortable fit. Safety Directors will like the extra protection which the sturdy lens-retaining eye wires afford. Repair men will appreciate how simple it is to replace lenses, temples and nose pads. And last but not least, top management and purchasing people will recognize that new CESCO Stylist Metal Frame Glasses save money by giving longer service and cutting replacement part costs.

**POLYFIT BRIDGE** • Reduce inventory and fitting problems with one universal-fitting comfort bridge

**POPULAR EYE SIZES** • F7 shape—46 and 48 eye sizes—use standard lenses

**SUPER SAFETY LENSES** • 6.00 C clear or antiglare—glass or plastic

**STURDY TEMPLES** • Cable or skull types with welded 5-barrel hinges for greater durability. Cable temples available fully insulated

**SUR-LOK PINS** • No lost screws. Temples held securely to frames

**SIDESHIELDS** • Flesh or green perforated plastic. Flat fold. New plastic-bound wire screen in black or stainless steel

**RHODIUM PLATING** • Nickel-silver frames and temples plated in corrosion-resistant rhodium with smooth satin finish

Consult your CESCO distributor for samples or write us direct for prices and complete information.



**Sideshield Model**  
No. 367 (46mm)  
and  
No. 369 (48mm)



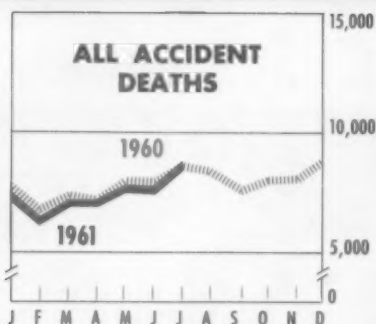
# CESCO FOR SAFETY

CHICAGO EYE SHIELD COMPANY • 2705 West Roscoe Street, Chicago 18, Illinois

CIRCLE 7 ON READER CARD

# THE ACCIDENT BAROMETER

Prepared by the Statistics Division  
National Safety Council



## THE NATIONAL ACCIDENT FATALITY TOLL

	July			Seven Months		
	1961	1960	Change	1961	1960	Change
Total	8,800	8,400	+ 2%	51,400	52,900	- 3%
Motor-Vehicle	3,310	3,450	- 4%	20,290	20,620	- 2%
Public (except M.V.)	2,250	2,100	+ 7%	9,600	9,800	- 2%
Home	2,120	1,900	+ 13%	15,400	14,400	+ 6%
Work	1,150	1,200	- 4%	7,800	7,900	- 0%

## WORK INJURIES

### 19 NATIONAL SAFETY COUNCIL CONTESTS

Disabling Injury Frequency Rates

	1961	1960	Change
July	6.26	6.56	- 5%
Seven Months	6.17	6.11	+ 1%

## MOTOR VEHICLE DEATHS

SEVEN MONTHS  
1961

### CHANGES IN DEATHS

Number of  
Reporting States

21  
1  
26

UP from 1960

SAME as 1960

DOWN from 1960

Number of  
Reporting Cities  
Over 10,000 Pop.

260  
207  
270

### GREATEST PER CENT REDUCTION IN DEATHS

States		Cities Over 200,000 Pop.	
Delaware	-41%	Charlotte, N.C.	-65%
New Hampshire	-32%	St. Paul, Minn.	-48%
North Dakota	-28%	Kansas City, Mo.	-47%

## HOME AND PUBLIC DEATHS

1961  
SEVEN MONTHS

### HOME DEATHS

UP from 1960:

Poisonings

DOWN from 1960:

Poison gas  
Suffocation  
Firearms  
Fires, burns  
Falls

### AGE GROUPS

Change from 1960

Home

Down 0-4  
Down 5-14  
Down 15-24  
Down 25-44  
Down 45-64  
Down 65-74  
Down 75 & Over

Public

Up  
Down  
Down  
Down  
Up  
Down  
Down

### PUBLIC DEATHS

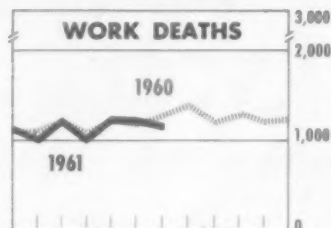
UP from 1960:

Drownings

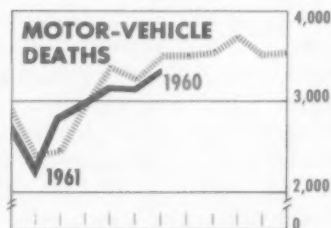
DOWN from 1960:

Transportation  
Firearms  
Falls

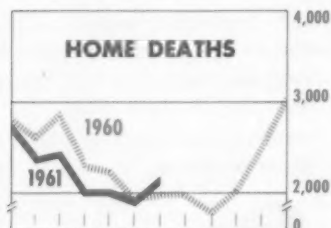
## WORK DEATHS



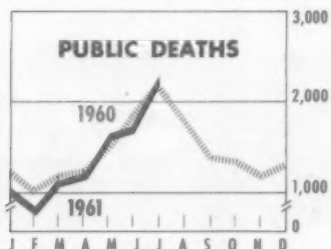
## MOTOR-VEHICLE DEATHS



## HOME DEATHS



## PUBLIC DEATHS



**Just waxed  
...walk with  
confidence!**



## **Wax containing Du Pont anti-slip LUDOX® is safer for walking—and beautiful on floors, too!**

Employees and visitors walk confidently, more safely on your floors when the wax contains Du Pont "Ludox" colloidal silica. Tiny silica particles of "Ludox" give a solid, sure grip underfoot. Yet you get the same lasting beauty, speedy application and ready rebuffability offered by other fine waxes.

"Ludox" is Du Pont's registered trademark for its colloidal silica—an ingredient used by formulators of quality

wax. Floor wax containing "Ludox" is available everywhere. If you'll mail the coupon, we'll send a list of suppliers and more information.

E. I. du Pont de Nemours & Co. (Inc.)  
Industrial & Biochemicals Dept., Rm. 2545 SN  
Wilmington 98, Delaware



Please send more information on floor polishes with "Ludox" and a list of suppliers.

Name

Firm

Address

City  State



**LUDOX®**  
colloidal silica

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

CIRCLE 8 ON READER CARD

# THE SAFETY VALVE



Nothing human is alien to me  
—TERENCE

## "THE TRAIN WAS GONE"

A FEW MONTHS ago *Look* carried a melancholy story entitled "Death of a Railroad." It described the last passenger run on the Lehigh Valley, a road once noted for its de luxe passenger service. It was a desolate winter's night for the veteran trainmen and for the few passengers aboard.

The photographer who took the shots to illustrate the story caught the pathos of the situation in a series of somber night scenes—the resigned dejection on the faces of the railroad men who were being "furloughed" or transferred to freight, a mother and weary youngster in a gloomy waiting room, a conductor making his last tour of almost-empty coaches. Under the lead picture, a soft-focus scene showing a trainman looking out on the deserted platform, was a quotation from Thomas Wolfe's *Of Time and the River*:

*Then the train was gone, and there was nothing but the rails, the earth, the moon, the river, and strong silence—and the haunting and immortal visage of America by night.*

The Lehigh is the latest of 17 railroads to abandon passenger service since 1945. The others were all minor lines. The Lehigh is the first major trunk line to take this drastic step.

I've always liked trains. I grew up on a jerkwater line—the Stratford-Port Dover branch of the Grand Trunk (now the Canadian National). Until the '30's it was quite a busy line and the depot was a center of community interest and activity. Watching the trains come in and leave was a popular sport for young and old. Arriving trains brought sleek salesmen with sharply creased pants, professionally shined shoes, and 10-cent cigars; neighbors returning from trips to the city, people coming to visit friends and relatives, and a load of express packages. A decrepit hack with a sad-looking horse met the trains.

Home on vacation I always dropped in at the station to visit with the agent and watch the noon train come in. Came the depression and dwindling freight, express, and passenger traffic. The tracks south of the village were torn up and a mixed train interrupted its trip to come down the junction two miles away. So far as I know the only person who ever rode it was a cousin—a retired railroad dick who liked it because he could deadhead and visit with the trainmen.

Finally, even this gesture of passenger service was

dropped. Whenever there was a carload, the freight pulled in and out again. LCL shipments were brought from the junction by truck.

The last chapter of the road's decline and death came last summer. The old station with its weathered red barn paint was abandoned after more than 80 years' service.

Strolling down by the tracks I looked in through the grimy windows of the deserted station. On the wall was a huge calendar with big, bold figures, hooks with assorted papers impaled on them, and a metal wall pocket with the Union Pacific emblem—one of my earliest memories of the station. The telegraph, which had brought in so much good and bad news, was silent. On the desk beside it was a bulletin from the railroad's safety department.

The rails were rusty and almost concealed by weeds. On the siding by the lumber yard was a solitary box car. I can remember watching the way freights came in with cars from other lines—Santa Fe, Great Northern, Pennsy, Southern Pacific, Baltimore & Ohio—and dreaming of the faraway places they reached.

Now there is a garage and car for nearly every house in the village. A trip to the county seat on paved roads takes less than half an hour; trucks deliver goods direct to the stores. Those who don't have cars can usually bum a ride to the city with somebody who has one. To the younger people a train is as much a curiosity as a buggy.

Outwardly, it would seem that the town has lost nothing. But those of us who remember railroading's picturesque past can't help feeling a pang over the change.

On the more practical side, many are concerned with the effect of the railroads' sickness on our military strength. During two world wars the roads rendered invaluable service in moving men and material. Even our expanded air and highway transport could hardly handle the whole load in an emergency.

Much as I like trains, I must confess I haven't contributed much to their passenger revenues. In the past ten years my wife and I have taken two trips by rail. We enjoyed both of them but the schedules were inconvenient and transferring and handling baggage at the terminals was a nuisance. It's much easier to load stuff into our station wagon and have door-to-door transportation. And our Civil War pilgrimages would have been impossible if we had been limited to rails and train schedules. The trains didn't go to many of the places where the Yanks and Rebels slugged it out.

Not long ago my wife made a trip to Asheville by train because she didn't like the idea of driving through the Smokies alone. But that long stopover in Cincinnati would discourage even an ardent rail fan.

When I'm ready for that trip to the Pacific Coast I hope the trains will still be running.

*Carman Fisk*





## Vital to the Public Interest Inside or Out

For over 100 years, Gamewell street fire alarm boxes have been a familiar part of the American scene. Triggering alarm systems in thousands of American communities, they have saved countless lives, many millions of dollars worth of property. And Gamewell alarm systems have always responded with unerring reliability!

Gamewell FLEXALARM interior fire alarm signal systems offer the same high standards of reliability. They can be planned as part of complete fire protection for any building: institutional, commercial or industrial — public or private.

Gamewell will be happy to show you how you can plan maximum protection at minimum cost — for new construction, expansion or modernization. Safety is everybody's business . . . our profession.

Contact your Gamewell engineer or write  
THE GAMEWELL COMPANY, 1370 Chestnut  
Street, Newton Upper Falls 64, Mass.  
A Subsidiary of E. W. Bliss Company.



**FIRST... WHEN SECONDS COUNT**

CIRCLE 9 ON READER CARD

## **WHATEVER THE JOB... LEHIGH MAKES A SAFETY BOOT TO FIT!**

The selection's wide and rugged, designed for every type of industry, work hazard and floor condition. Every pair is tops for safety and service, styled for comfort and ease. The famous Lehigh steel toe box resists pressures of more than a ton; soles and upper leathers are specially constructed to keep feet safe from injury. At Lehigh, every step, from designing to testing, is planned and executed with expert precision. Each safety boot passes a series of arduous tests, over and over again. When you choose Lehigh, you're choosing the best: you're working with one of the world's largest and most reliable safety shoe organizations. The Lehigh Safety Shoe Company, of Emmaus, Pennsylvania, has been making a science of foot protection for over 35 years.

THE LOWEST-COST  
SAFETY INSURANCE  
YOU CAN BUY!

# **LEHIGH**

**(1900) NEW METATARSAL SHOE** for maximum instep protection. 8-inch black elk, full double soles. Gro-Cord Neoprene Cord outsole, heel. Perma-Counter, steel shank.



**(1914) RETAN ENGINEER'S BOOT** with French-top facing. 10-inch, full double soles. Neoprene oil-resistant outsole and heel. Full Chrotan innersole. Goodyear caulk welt.



**(1919) LACE-TO-TOE BOOT** 8-inch mahogany Eskimo boot, leather middlesole, heavy Neoprene outsole, Chrotan innersole, leather storm welt.



**(1926) THERMA-LINER INSULATED BOOT** 10-inch tan stuffed leather patch moccasin. Upper padded throughout with vinyl foam, sponge-cushioned innersole. Pyrol-sealed for maximum water repellency.



**(1927) HEAVY-DUTY WORK BOOT** 8-inch tan blucher. Neoprene cork sole and heel. Double-deck leather storm welt. Perma-Counter, steel shank, cushion insole with wing arch.



**(1928) BLACK JET BOOT** 8-inch, fully lined with soft wool fleece for extra warmth. Super-service Miragum cemented and stitched outsole and heel. Perma-Counter.



LEHIGH SAFETY  
SHOE COMPANY  
EMMAUS, PENNA.

# LEHIGH



## WIRE from WASHINGTON

By **HARRY N. ROSENFELD**

General Counsel  
National Safety Council

# New Mining Study Authorized

**T**HE KENNEDY Administration's first Congressional session adjourned after an almost record length.

*Industrial Safety.* The Congress passed H.R. 8341 and the President signed it into law as P. L. 87-300, authorizing the Secretary of the Interior to conduct a study of the causes of injury, health hazards, and unsafe working conditions in metal and nonmetallic mines (other than coal and lignite), to evaluate the programs and techniques necessary to provide safe and healthful working conditions in such mines, and to make recommendations to the Congress within two years for an effective safety program.

The all-manufacturing injury frequency rate for the second quarter of 1961, according to the U. S. Department of Labor, matched the previous low rate for that period (achieved in 1958). The rate of 10.5 disabling injuries per million man-hours worked was 5 per cent lower than that for the comparable period of 1960, but a fraction above that for the first quarter of 1961. The department also announced that the over-all injury-frequency rate in the nation's coal mines for the first six months of 1961 was up 4 per cent and the fatality frequency rate up 12 per cent, as compared with the same period of 1960. The Bureau of Mines announced preliminary data indicating that the frequency rate of disabling injuries in the mineral extractive industries in 1960 was almost exactly identical with the final 1959 rate, but that the fatality experience for development, production, and related workers rose

from 0.27 in 1959 to 0.31 in 1960.

The U. S. Department of Labor issued, in final form, its regulations identifying certain occupations as "particularly hazardous and detrimental to health of minors between 16 and 18 years of age." The described occupations include those involving exposure to radioactive substances and to ionizing radiations (such as radium, self-luminous compounds, and incandescent mantles, among others) and "any other work which involves exposure to ionizing radiations in excess of 0.5 rem per year."

The President approved a memorandum issued by the Federal Radiation Council providing recommendations and guidance for federal agencies in the conduct of their radiation protection activities. The recommendations include: 1) radiation protection guides for use in "normal peacetime operation" for the thyroid and bones of individuals

in the general population, as well as averages over suitable samples of exposed groups; 2) guidance on general principles of control applicable to all radionuclides occurring in the environment; 3) specific guidance in connection with the exposure of population groups to radium-226, iodine-131, strontium-90, and strontium-89; and 4) for other radionuclides, consistency with the council's Radiation Protection Guides and guidance on intake.

The chairman of the Atomic Energy Commission confessed that "the AEC is obsessed with safety." He stated, however, that while "the AEC must make the likelihood of accidents as remote as possible," the American people "must deal realistically with the facts of this risk." The AEC amended its regulations to add a standard contract clause on nuclear reactor safety which is to be incorporated in all contracts "in-

— To page 108

### THIS MONTH IN WASHINGTON

- Secretary of Interior authorized to conduct study to determine causes of injury, health hazards, and unsafe working conditions in metal and nonmetallic mines other than coal and lignite.
- All-manufacturing injury frequency rate for second quarter, 1961, ties previous all-time low, marks slight increase from first quarter, 1961. The over-all injury frequency rate in coal mines for the first half of 1961 is up from the same period in 1960.
- AEC adds new safety clause to contract regulations: contractor must submit hazard summary report before initial start-up, and must prepare a plan for minimizing the effects of possible nuclear incident.



# The Count Down has already started on the NEXT SERIOUS EYE ACCIDENT



It is estimated that 27% of industry accidents are eye accidents. 3% are injuries to eyes, but an additional 24% are caused by poor vision due to faulty eye protection. Official government estimates show these eye-accidents cost industry millions of dollars each year. Further, poor sight holds back production anywhere from 25% to 40%. No wonder foul sight is one of your largest safety-efficiency problems.

Both types of MAGIC Cleaning Stations are Science's answer to foul sight. For goggles and glasses stay dirty and dangerous unless you make it as easy as possible to clean them. Choose the type station to fit your conditions:

About the MAGIC Lens Tissue that polishes and protects lens as it cleans: Unmatched in quality, it far exceeds scientific specifications. Each sheet is BIG. It's 50% larger than usual and has twice the tearing strength. One sheet is big enough to clean the largest safety goggles. Every square inch is packed with Silicone's Sparkle Power — on both sides of the sheet. It is interfolded, serving only one sheet at a time — not in bunches. And that's an exclusive feature with MAGIC. Yet it costs less. The compact dispenser is self-mounting; no screws, no drilling. Just stick it to the wall. No maintenance.

No adjustments. No wear. No moving parts. Absolutely indestructible.

About the MAGIC Heavy-Duty Lens Cleaning Station: It's for dirty, oily areas or where Anti-Fog protection is needed — on plastics or any eyewear. MAGIC combined Cleaning & Anti-Fog Fluid combines all needed ingredients. And it's pressure-packed. Just touch the can and — **PRESTO** — the can does the rest. 1,400 applications per can. One can equals 4 old-fashioned bottles. No pump. No bottles to refill. Indestructible dispenser — with no moving parts — releases sheets 1-by-1, not in bunches, greatly reducing waste. Or, to use your home-made fluid, we can supply our Adapter (\$2.70) with a giant 16-oz. bottle and plunger complete. MAGIC Heavy-Duty Paper, not silicone-treated, is superb, strong, wet-strength paper. Like its sister-product, the world's finest quality. No scratching on plastic, and no lint.

Buy the leader and save money. Buy MAGIC. Exchange all your other stations for MAGIC FREE.

Magic Silicone Lens Tissue (6 refills (800) sheets ea.)	Ctn. \$ 8.40
Magic Lens Tissue Dispenser FREE WHEN EXCHANGED	ea. 2.50
Magic Heavy Duty Dispenser FREE WHEN EXCHANGED	ea. 5.95
Magic Cleaning & Anti-Fog Fluid (Twelve 12-oz. cans)	Ctn. 12.50
Magic Heavy Duty Paper (18 giant refills (760) sheets ea.)	Ctn. 11.60
All prices F.O.B. Shipping point	

MAGIC Silicone  
Lens Tissue

MAGIC Pop-up pack in self-dispensing box for your desk or any place in the office, plant or laboratory, \$11.95 per carton of twelve boxes.



MAGIC  
Heavy-Duty  
Cleaning Station



Serving Every Major Industry in America

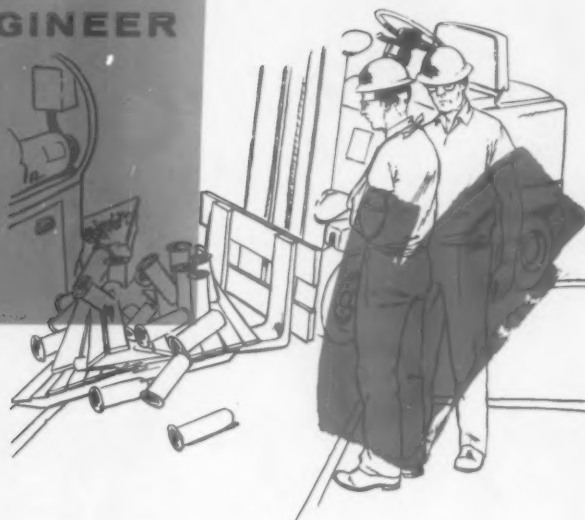
**Magic**  
TM. REG. U.S. PAT. OFF.  
**Cleaning Stations**

The Silicone Paper Company of America Inc. 75 East 45th Street, New York 17, N. Y.

CIRCLE 11 ON READER CARD

## DIARY OF A SAFETY ENGINEER

My new recruit takes his lessons learned at Congress and puts them to use on the Project. We all learn a lesson from him



# Luck or Genius?

Fiction by **BILL ANDREWS**

**L**OU JERRIS, my new assistant, recovered from his injuries in time to attend the latter part of the National Safety Congress in Chicago. He professed to be embarrassed at going to the Congress with his arm in a cast, but I pointed out that, in his case, the cast was a badge of honor, since he had been injured in a brave action to protect the workers in the plant against homicidal action by a lunatic.

Louis apparently had a good and instructive time at the Congress. He returned with a bulging briefcase of advertising and educational materials, with a notebook full of notes taken at sessions, and with a mind stimulated in many different ways.

The week after our return from the Congress, Louis came to me with a problem. "Boss," he said "you know that bank of automatic machines down at the pump works. The ones in the northeast corner, I mean. Did you ever take a good look at the aisle layout there?"

I remembered the location, but I had to admit I didn't remember anything peculiar about the aisle layout.

"There isn't anything peculiar," he said. "But that aisle carries heavy power truck traffic—heavy in number of trucks and heavy in loads. The cylinders are finished in the

northwest corner of the plant. They have to be trucked along the north aisle, make a right-angle turn by the automatics, and be delivered a hundred feet south of the turn to the assembly tables. Pistons and casings come to that point from other directions. The thing that worries me is that right-angle turn. The truckers have a long straightaway before they get to the turn, and they don't have to stop until they are a hundred feet past the turn. The temptation to speed those trucks up is hard to resist, and though the aisle is fairly wide at the turn, I've seen several of them go around with wheels skidding and their loads leaning over. I'm afraid somebody isn't going to make that turn, and the result could be a bad accident—very likely a fatal."

"Did you talk to anybody about it?" I asked.

Lou looked a little apologetic. "Boss, you were telling me how my predecessor on this job got in bad by telling experienced men how to run their plants. Well, I did talk to Martin, the superintendent, about it. He came over with me and watched awhile, but, perhaps because they saw the super standing there, the drivers who went by were driving very sedately. Martin said I was just borrowing trouble. Then I talked to a couple of the drivers, but they just kidded me about being a worry wart. 'We know our jobs, and we know that turn,' they told me."

I was tempted to tell Louis he had done his duty and if the people on the job thought the situation was safe, and if there had been no accidents, there wasn't anything more for a safety man to do. But then I remembered that Lou, for all his newness in safety work, is a level-headed and clear-thinking young man. So I promised to go down with him and look the site over.

We went down the next day, and the situation was evidently just as menacing as he feared. There were skid marks on the concrete at the turn. While I was watching, the drivers weren't speeding, but the traffic volume was all that Lou had reported. One redeeming fact was that no employee's regular work station was on the aisle side of the automatics near the turn, but of course occasionally men had to be in that area doing maintenance or simply walking past. And those trucks loaded with cylinders certainly packed plenty of weight!

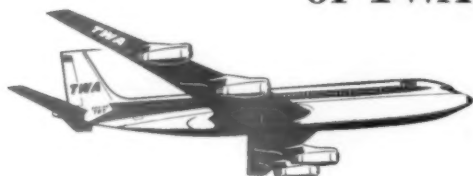
Jerris and I went down to Martin's office, and I put it to him straight that Lou's concern was justified. Martin bridled at first, but he's basically a reasonable man. He agreed to alert the foreman to the situation and the danger, and he agreed to my suggestion to have Lou show a slidefilm on power truck handling to the truckers. That satisfied me, and we all shook hands and parted. But, driving back to

— To page 72

• Larger than three football fields, Trans World Airlines' new multimillion-dollar jet maintenance hangar at Los Angeles International Airport was designed by Holmes & Narver, Inc., of Los Angeles, working with TWA's Facility Design, under direction of E. T. Phillips. Diversified Builders were General Contractors. COLOR DYNAMICS was used by Murray Painting Co.



## How Pittsburgh COLOR DYNAMICS® adds to efficiency of TWA's giant new maintenance hangar



- Relieves eyestrain and nervous tension
- Improves morale of workers
- Reduces accident hazards
- Costs no more than ordinary painting

• Send coupon for free copy of booklet which explains what COLOR DYNAMICS is and how it can be applied. If you wish, we'll also gladly prepare a detailed color plan of your factory without cost or obligation.

• Increased efficiency, better morale, greater safety! These are the principal benefits TWA gained through the use of Pittsburgh COLOR DYNAMICS . . . benefits you can count on, too!

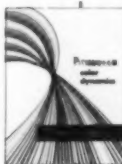
• Based on human reactions to the energy in color, this modern painting system makes it possible to scientifically select colors that contribute to greater productivity.

• Cool colors of high reflectance make work areas bright and cheerful, help workers see their tasks better. Focal and eye-rest colors on machinery lessen eyestrain and nervous tension. Safety colors on machinery controls and material-handling equipment help reduce dangers of time-loss accidents.

• Why not ask us how you can enjoy the advantages of COLOR DYNAMICS—at no greater cost than ordinary maintenance painting?

**PITTSBURGH PAINTS**  
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



Pittsburgh Plate Glass Co., Paint Div.,  
Department NSN-111, Pittsburgh 22, Pa.

☐ Please send me a FREE copy of your booklet "COLOR DYNAMICS."

☐ Please have your representative call for a COLOR DYNAMICS survey without obligation on our part.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_



# SMALL BUSINESS and ASSOCIATIONS

By HUGH McCAHEY

Small Business Program Director, National Safety Council

## American Gas Association Sponsors Safety Film

This new film sponsored by the Accident Prevention Committee of the American Gas Association shows the principal points in the use and care of several types of load binders and lever hoists. The precautions to be observed for preventing personal injury are stressed. The film is applicable wherever this type of equipment, regardless of make, is used.

Examples of the use of load binders to restrain loads of various types are displayed. Details of the applications of the binders plus the use of lever hoists for lifting or dragging loads are pointed out. With all the devices, the proper use, care, maintenance, and inspection techniques are shown.

Copies of the five-minute film (b & w - 35mm sound slide) can be purchased from the Liberty Mutual Insurance Co., 175 Berkeley St., Boston 17, Mass. The cost of both film and record is \$10.



AGA film shows how tension pull load binder maintains tension on chain when grab hook is moved in order to tighten or loosen binder.

## DON'T "BULL" YOUR WAY INTO TRAFFIC



1. CHECK TO THE REAR
2. WAIT FOR A BREAK

## Bakers Association Co-sponsors Poster Series

The two posters shown on this page were included in a set of 12 bakery posters, six in-plant and six fleet, which were on display at the Bakers Division Round Table during the National Safety Congress. The complete series was also featured prominently at the American Bakers Association Convention in Atlantic City, October 9 and 10, in connection with a main session dealing with accident prevention.

This new series was started in the following manner: Members of the American Bakers Association Safety Committee in cooperation with the NSC's Bakers Division circulated a questionnaire to the Association's members to determine their needs and preferences for poster subjects. Based on the replies, a set of 12 safety posters was produced at NSC facilities.

The association is purchasing these posters and redistributing them at cost.

This arrangement for co-sponsoring a series of posters with a trade

## DANGER SHUT OFF MACHINE



before { clearing jams  
cleaning  
adjusting

association can be used by other associations. It is a practical way to utilize the resources of the Council and it enables the association to give a tangible and well-planned service to its members with a minimum expenditure of money and time.

## Safe Sailing Manual Out

*A Manual for the Prevention of Accidents Aboard Great Lakes Ships.* Developed by the Lake Carriers' Association, this manual has been designed to assist ship safety committees working in collaboration with the Association's Welfare Committee in the continuing effort to minimize the number of personal injuries on board vessels in the membership.

Included in this manual are recommendations covering: setting up a ship safety committee; utilization of safety gear and proper work methods for performing particular shipboard tasks; water safety and artificial respiration; fire prevention; and safety precautions to be used in various areas.





"Know how to prevent, and how to fight fires."



"Protect YOUR toes with safety shoes."

## Safety Sue Says:

A little over three years ago Fibreboard Paper Products Corporation safety man Al Barnes got together with the firm's vice president of manufacturing, Jack Havard, and J. W. Soward, public relations manager, to dream up a poster program to convey safety messages to 6,500 employees.

It was decided to take test photos of several San Francisco models. From these, personable Sue Fetz (who had been Miss San Francisco and a runner-up to Miss California in the 1956 Miss America contest) was chosen as capable of portraying the intent of a variety of monthly safety messages.

For more than three years "Safety Sue" has personified the firm's safety policies in posters and in the monthly employee magazine *Fibreboard Shield*. Employees keep asking for more.



"Get help for those heavy loads."



"Remember to bend the legs, not the back."

# Can Machines Teach Safety?

The question was put to a group of experts in the field of mass communications. Their answers have far-reaching implications for safety training

By PETER W. HANEN

*We are presenting here excerpts from a discussion that took place last month at the National Safety Council main offices. The subject was, "the future of teaching machines in the safety training field." Present at the discussion were:*

*S. R. Guard, director of research, North Advertising, Inc., who has studied teaching machines to discover their possibilities for measuring the effectiveness of communication methods.*

*Donald I. Rose, director of public relations, Herbert Baker Advertising, who handles problems in employee relations and communications for several of his firm's clients. He is a former member of NSC's Public Information Department.*

*John Naisbitt, director of public information, NSC.*

*Peter W. Hanen, associate editor, NATIONAL SAFETY NEWS.*

*The issues raised will be of vital interest to those who expect to keep their training programs up to date.*

HANEN: There has been much excitement in recent months over use of teaching machines in both the educational field and in industrial training. Some of the results have been extremely favorable. What we want to consider are the possible applications of teaching machines to problems of safety training.

The ground we want to cover should include what the machines are and how they work; an evaluation of their relevance to the safety field; and a close look at the costs involved. Sam, would you start off by describing the teaching machine itself?

GUARD: Let me begin by pointing out a curious irony. Teaching machines have been developed by taking a page right out of the industrial safety text. When teaching machines begin to find safety applications in industry, it will be only because industry can recognize in the method of the machines something they have been doing for years.

It's just this: when an operator

steps up to his machine, he must perform a series of steps correctly before the machine will run at all. Each step in the series must be performed correctly. First, the guards must be in place; then and only then can the operator go on to step two, which might involve dual controls, and so on. There is no progress until each step is correctly completed.

To the operator, the steps are simple and easily handled. He knows he cannot move ahead until he has completed the steps, but the steps do not discourage him from going on. They are easily handled.

This is precisely the basis of the use of teaching machines, or programmed instruction, as it is called. As you may know there is a variety of machines in use but the method behind all of them involves programmed instruction, programmed learning, really.

Just as the series of controls placed on a factory machine is all important for safety, so the series



Programmed texts used with page maskers are least costly form of "teaching machine." Shown is one of the Britannica TEMAC texts.



Eastman Kodak Co. uses programmed learning for internal training. The machine shown here was developed by Recordak Corp., a Kodak subsidiary, and uses a microfilm system which can be programmed for either straight-line or multiple-choice branching methods of instruction.

of steps into which a subject matter is programmed becomes all important. The programming is the heart of the method. The machines themselves are tailored to the programming and to the sort of application needed, whether it be mass teaching or individual instruction that is wanted.

Before we take a closer look at the method and its relevance for safety, let me answer your question as to the description of the machines. You must understand that when we speak of a "teaching machine" we are talking only about the most glamorous item in the field. Most programmed instruction uses texts and page maskers. The learner simply moves the mask down the page to reveal the answers as he goes along. The texts cost about twice as much as conventional texts, but this is mostly because their bulk is twice that of the conventional ones.

The actual machines start at the low end—about \$20.00—with a machine so simple any plant could build one. Some of these are little more than cardboard boxes with a lever and screw which just changes the pages and keeps the learner from looking ahead for the answer.

When you move on to audio-visual machinery the costs start at about \$200 for a good slide projector and they run up to about \$1,000 for the more complicated devices which make provision for various types of learner response.

Then you get into a class of ma-



Participants in the discussion were, l to r, Donald I. Rose, director of public relations, Herbert Baker Advertising, John Naisbitt, director of public information, NSC, Peter W. Hanen, associate editor, NSNews, S. R. Guard, director of research, North Advertising, Inc.

chines that involve multiple-choice questions and branch routes which depend upon the answer the learner gives. These machines start at about \$600 and go up to about \$3,000.

There are some interesting machines available for mass teaching. I have seen one machine which allows the programmed material to come in on television. This has actually been done in California.

Both the materials and the answer are telecast, but the answer is on a portion of the screen that is blacked out and coded to be read by a computer arrangement.

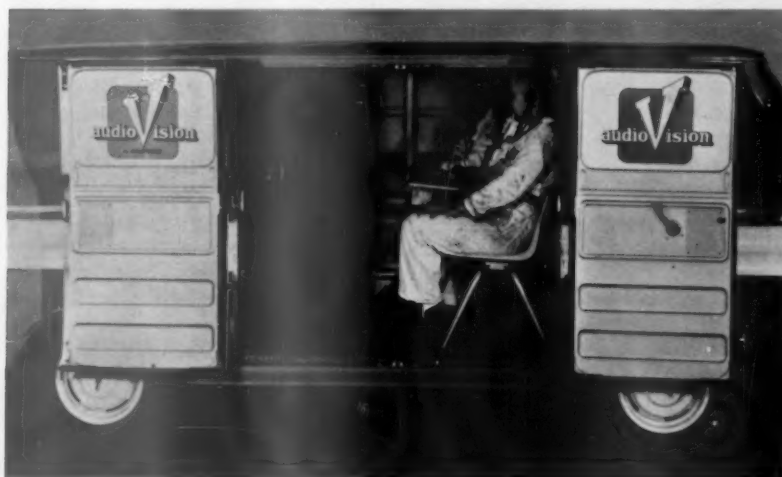
Each student has five buttons at his desk. The student punches the

button of his choice after the television set has presented the material and asked a multiple choice question about it.

The buttons are linked to the teacher's desk where they punch a card for each student's response. The teacher has a meter which tells when all the students have answered.

The television set then tells them the correct answer and why. Often it tells them why the wrong answers were not correct. At the end of the day the teacher picks up the deck of cards and puts them in a machine which tells how everybody did, and rates the progress of the class. This

— To page 98



Lectron Corp.'s mobile trainer contains a sound-slide unit set up for student response programming. Sound for the unit is provided by synchronized tape narration. Unit is useful where trainees cannot easily be brought to a central location for instruction.



Student stations inside the trainer are equipped with headsets and multiple choice response buttons for individual instruction.





## Profits At the Conference Table

**Though not a safety man, Paul Ryan was asked to sit in on his company's safety conference. He brings us the freshness of an outsider's viewpoint**

**By PAUL L. RYAN**

Alco Products Inc.  
Schenectady, N.Y.

**I**'LL ADMIT I was skeptical; it appeared to me that calling the safety directors of seven manufacturing plants together for two and one-half days was a waste of time, effort, and money—not that it really worried me, but it looked like a good chance for these men to get away for a couple of days of living it up at company expense.

I was amazed—and impressed. The company got its money back many times over.

The company in this case is Alco Products, Inc., a firm that manufactures locomotives, diesel engines, thermal and oil field equipment, pip-

ing, springs and forgings, and nuclear power components. Its plants are located in five states.

Alco's ninth annual safety conference opened on a Sunday night with a get-together dinner at the country club which was the headquarters for the affair. (Each year the meeting is in a different plant city.) As might be expected, most of the business of the first evening was good-natured joshing between the representative from the plant in Texas and the rest of the group from New York, Pennsylvania, Illinois, and Ohio. Many of these men had been together before; they enjoyed each other's friendship.

The next morning at 8:30 the conference sessions got under way with a businesslike informality that was refreshing and inspiring. Each man had a topic to present for dis-

cussion; the presentations were short, but the discussions that followed were the real meat of the sessions. Experiences and knowledge gained at the different plants were exchanged and discussed, to the mutual benefit of all.

Take the topic of "Cranes and Chains," for instance. The safety representative who presented this subject had a booklet and drawings to show how chains weaken over the years and what can be done to detect hazards in this area.

During the discussion the man from Texas said a similar subject had been presented at the meeting several years ago.

"I went home all fired up about chains," he continued. "We had an inspection and found two chains and four hooks that were worn out. One

— To page 76



**O**NE West Coast missile-making firm more and more these days is using closed-circuit TV to orient, motivate, train and indoctrinate its workers *on the job*. And these program subjects range from safety attitudes and mechanical demonstrations to complex computer problems and procedural details.

A few months ago, Autonetics, a division of North American Aviation, Inc., Downey, Calif., conducted a three-day, six-program series of CCTV instruction on the firm's USAF *Minuteman* missile system.

Equipment for the pilot project included two cameras mounted on dollies, lavalier microphone, audio amplifier, switch-box for selecting cameras, and a small assortment of kegs and deuces for set lighting in the studio 100 yards from the assembly and test areas.

Sixteen CCTV monitors — placed strategically near work stations throughout an assembly area in the plant — told workers to set aside their tools and watch.

Employees did just that for pinpointed film clips, newsreels, demonstrations, interviews with production personnel, and an actual *Minuteman* firing sequence, plus question-and-answer periods.

The response: "Great stuff!" "Never realized how important our work is!" "Wonderful!" Results: better morale, higher production, greater safety.

These rave reactions led to a second group of CCTV programs telecast by the company a month after the first three-day series. Programs dealt with reliability goals and workmanship standards achieved in the four weeks since the first CCTV presentation.

Additional CCTV moves along on a monthly basis. A recent training offering was watched by 150 workers at the Downey plant and at the Pico-Rivera operation five miles from Downey.

Students viewed monitors in classrooms in the same building as their work areas. Microwave solved the problems of distances between facilities by beaming the course from rooftop to rooftop.

Walter V. Hardy, head of Autonetics Motion Picture Department, has tremendous enthusiasm for the success of this communication me-

— To page 88

## They Train With CCTV



Above: In this recent Autonetics training course in safe computer operation, extreme closeups of control panel make presentation more effective. Left: Microwave transmitter atop factory building links CCTV studio and classroom 15 miles apart. This TV medium enabled company to train without losing production or requiring hazardous travel. Below: Note at least four TV sets for employee observation in their work areas. These sets are placed so workers can watch show without moving from station — another saving in time and money.



## SELF-EVALUATION CHART FOR TRAINING PROGRAMS

	YES	NO
1 Are the objectives of your program clearly outlined and defined?		
2 Do you have a written outline for each course in your program?		
3 Do your classes operate on a definite schedule, made up and announced well in advance of the starting date?		
4 Are your instructors fully trained in the proper methods of teaching?		
5 Do your instructors use lesson plans in some form?		
6 Do you have a classroom(s) or meeting room(s) with proper lighting, ventilation, and seating arrangements?		
7 Is the meeting room(s) provided with visual aids such as blackboard, projector, and flannelboard?		
8 Do you maintain attendance records and records of grades?		
9 Do you have any standards or requirements that must be met before a student can enroll in a program or course?		
10 Do you offer any recognition for the successful completion of a course?		
11 Do you upgrade all existing programs or courses each year to make certain they meet existing needs?		
12 Do you check your instructors frequently to help correct any weak points in their teaching?		

# Training

**New postcard format  
survey shows supervisor  
training mostly  
hit or miss**

**I**N JULY, 1961, the National Safety Council's newly-developed postcard questionnaire form was sent to 1057 industrial safety men to survey methods and extent of safety training given supervisors.

A total of 588 replies (55.6 per cent) were received.

Some of the information derived from the survey:

- Thirty eight per cent of the 588 respondents indicated they had supervisor training on a formal, or course, basis. (Forty six per cent indicated no formal courses were held; 16 per cent gave no answer to this particular question.)

- Company instructors are used by 58 per cent of the respondents. (Twenty two per cent said company instructors were not used; 20 per cent of the respondents gave no answer here.)

- Outside instructors were reported by 21 per cent. (Outside instructors weren't used by 40 per cent; 39 per cent of the 588 gave no answer.)

- The average number of hours devoted to each course indicated by the 38 per cent was: 2.5 per month; 17 for the total course.

- Kinds of courses employed are indicated by the following percentages based on the total number of replies: Company developed, 56 per cent; federal or association developed, 5 per cent; insurance carrier developed, 21 per cent; National Safety Council developed, 23 per cent; other, 9 per cent. (Since some replies indicated more than

# Survey

Graphs at right show results of NSC Industrial Department survey of 1057 industrial safety men to determine current practices in supervisor training. For a reproduction of the survey postcard, see page 90.

one type of course used, the total of percentages is greater than 100.)

Many companies, according to the report, use a combination of several types of programs, tailored to meet company needs and policy. No doubt, many of the 56 per cent that reported company developed programs fall into this category.

Since a larger percentage (58 per cent) reported the use of company instructors as against the 38 per cent who reported formal courses for training supervisors, it appears the term *formal* is interpreted in a number of ways. This is probably not only true for the group surveyed, but others as well. Obviously the term is used indiscriminately by some to describe all types of meetings including safety meetings. A safety meeting may, or may not, include training as part of the agenda. This is actually unorganized "hit or miss" training. Such training is often inefficient and costly, with the cost hidden in concealed overhead. Formal training is organized — it is efficient training. It brings the individual to his maximum productivity in the shortest possible time. Formal training reduces waste and overhead costs. It prevents lowered production and high labor turnover. It also prevents accidents.

One of the early pioneers in vocational education in the United States, C. R. Allen, recognized that if individuals were to be trained efficiently, devices more effective than mere observation, imitation, or incidental participation had to be em-

— To page 90

## CARDS RETURNED

588

100%

## TYPE OF SAFETY TRAINING

### FORMAL COURSE ON CLASS BASIS

226

38%

### COMPANY INSTRUCTORS

339

58%

### OUTSIDE INSTRUCTORS

126

21%

## TYPE OF COURSES USED \*

### COMPANY DEVELOPED

331

56%

### FEDERAL OR ASSOCIATION DEVELOPED

30

5%

### INSURANCE CARRIER DEVELOPED

126

21%

### NATIONAL SAFETY COUNCIL

133

23%

### OTHER

54

9%

\*The total of percentages here is greater than 100 because some respondents indicated more than one type of course was utilized.

Colleges, universities, schools	17
State industrial commission or state department of safety and hygiene	13
US Bureau of Mines	3
US Department of Labor	1
Trade associations	5
Local safety councils	2
Red Cross	6
Textbooks	6
Laboratories	1

54 9%



If the boss gives you  
something on safety to read,  
you'll probably dump it.

But if an impartial  
organization gives  
you something . . .



in a reading rack,  
for instance . . .  
you'll probably read it.

## Indirect Approach To Employee Communications

By MORIS T. HOVERSTEN

ONE of the basic problems of communicating to employees is achieving believability (getting them to take the employer's messages seriously). Employees don't regard a communication as a falsehood, but since the boss is speaking, they tend to take the message with just a grain of salt.

No matter how straightforward, sincere, and well meaning an employer's message may be, it unfortunately is just a little bit suspect. How does an employer overcome this obstacle? How can ideas be put across to employees in a way that will be believed and taken seriously?

The situation is not too unlike the problem a parent faces. There are some things he just cannot get across to a youngster, yet an outsider can do the job effectively.

Can this principle, this third person approach, be applied to em-

ployee communication? A good many business firms have come to think it can and are using the idea in the form of information racks.

These racks first came into use as an employee communication medium about the time of the Korean War. General Motors was a pioneer of the idea. Since then several thousand other firms have adopted the program.

Objectives, of course, vary between companies, but generally most companies believe the well-informed employee is a better employee—happier, more productive, and safer.

### How It's Done

Here is how the rack idea was set up in most companies:

Literature racks were strategically placed throughout offices and factories where most employee traffic passed. Usually one individual with the aid of a committee was appointed to look for reading matter suitable to the objectives of the program. If a good article appeared in a national magazine, the publisher was approached and asked for reprint permission. Most publishers cooperated willingly. Some even suggested other articles from back is-

sues. It was only a short time before publishers around the country, working with companies that had racks, were able to provide a good supply of specially prepared booklets fitting the objectives of the program.

Employees were under no obligation to pick up the material. They could take it or leave it. For the most part they liked what was available and asked for more.

Although the results are difficult to measure, most companies continue pretty much on faith. As more than one executive has said in appraising the program, "If they are taking the material home and not leaving it around the plant, they must be reading it."

### A Communication Device

The idea has been on trial for about ten years now. Perhaps it has now shaken down well enough to be evaluated as a full-fledged employee communication tool. One might ask if it is here to stay. What does it offer that other media do not? Can it be improved upon?

The rack does not by any means provide the answer to all communication problems, but it does offer some interesting features not to be overlooked by anyone interested in employee communication. Here are a few to consider:

### Broadens Horizons

One of the principal objectives of the program is to "broaden em-  
—To page 111

The author is publisher of Enterprise Publications, Chicago. The article was first published in the *Public Relations Journal*.



# Model Fires Probe Dry Chemical Powders

**Small lab blazes provide data on flammable liquids at little cost, hazard**

**M**ODEL heptane fires of 1½-in., 6-in., and 22 4/5-in. diameters are serving scientists measuring relative extinguishment effects of various dry chemical powders.

National Bureau of Standards researchers have long sought improved techniques for studying fires with models in the lab to shortcut the excessively expensive and hazardous starting and studying of full-scale fires in flammable liquids.

In using these model blazes, NBS men are gaining basic information on behavior and extinguishment of fire involving flammable liquids resulting from transportation and storage of such liquids for defense purposes.

In these studies another major objective has been to find a correlation between the extinction effectiveness of a powder and the size of the fire model. The studies also shed light on the way in which extinguishment is achieved, and provided information on applicability of lab results to full-scale fires.

**Methods Used.** Extinguishing agents used were sodium bicarbonate, potassium bicarbonate, potassium iodide, potassium oxalate monohydrate, and glass beads. With the exception of the beads, these materials were initially in crystalline forms.

To improve their flow properties, 2 per cent stearate (by weight) was added to the materials before grinding in a ball mill. Sieving and air elutriation methods separated pulverized powders into samples of narrow ranges of particle size between 5 and 40 microns.

Samples of these graded powders were then applied to model fires at controlled rates to determine fire extinction effectiveness—defined as

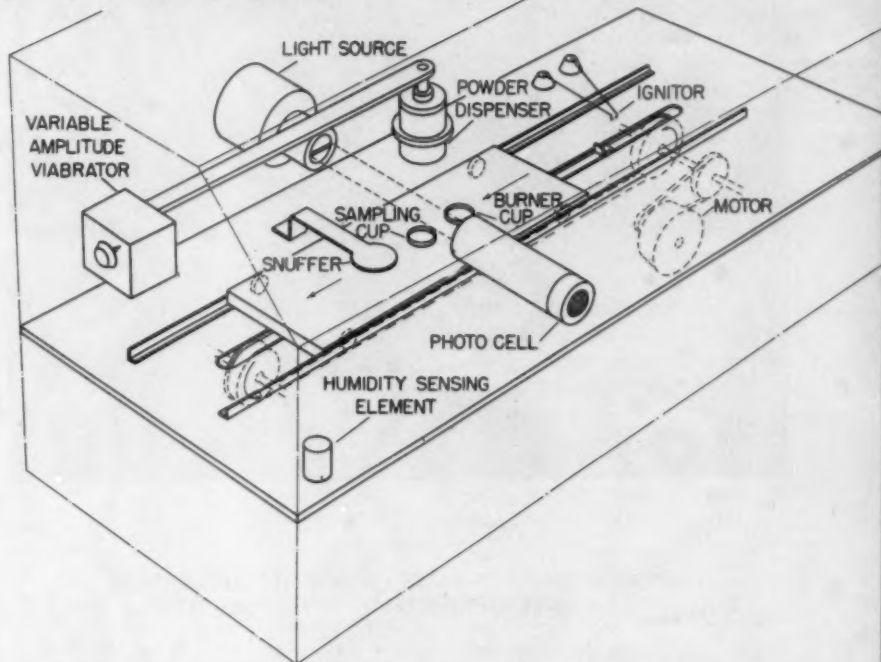


FIG. 1 APPARATUS FOR EVALUATING THE FIRE EXTINCTION EFFICIENCY OF POWDERS

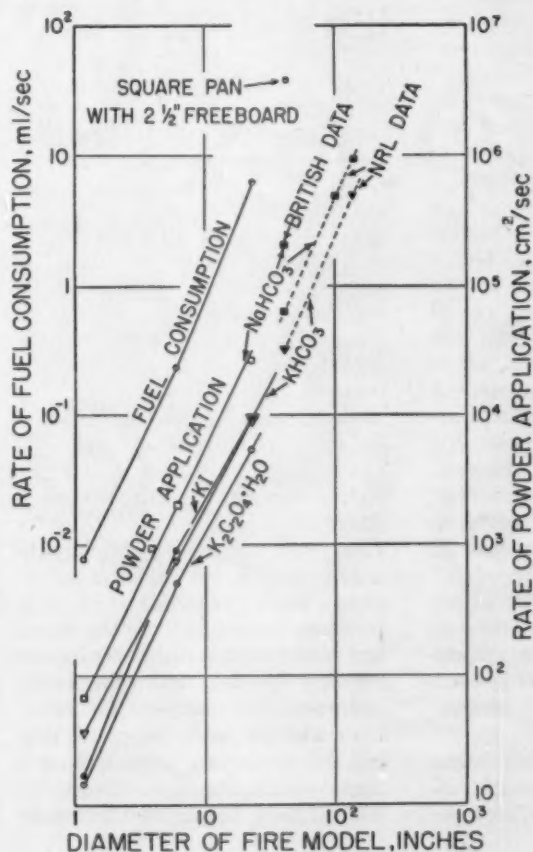
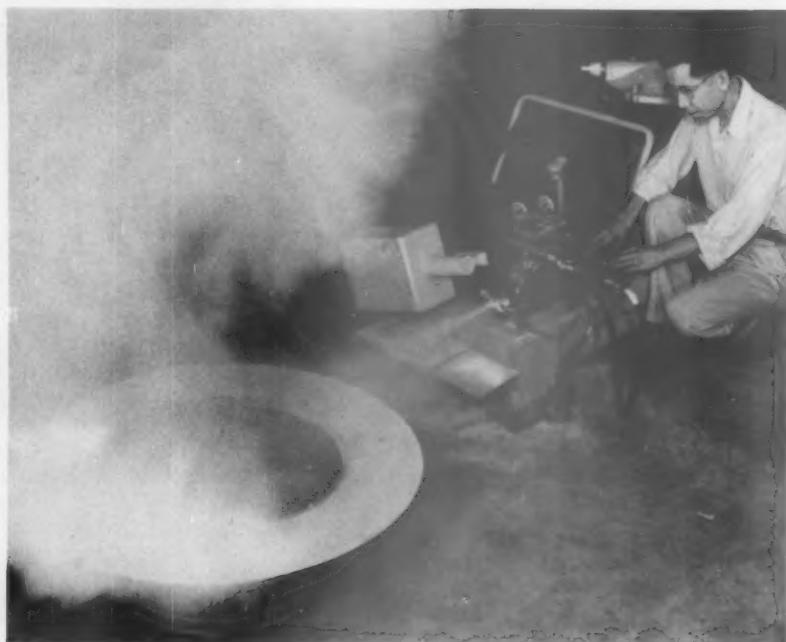


FIG. 2

Above: Figure 1. Apparatus used at the National Bureau of Standards for evaluating the fire extinction efficiency of various dry chemical powders for fires in flammable liquids. The burner cup containing the fire is 1½ in. in diameter.

Left: Figure 2. Graph showing rate of fuel consumption and minimum rate of powder application for extinguishment of flammable liquid fires of different diameters.



Left: Figure 3. Extinguishment of a model fire in flammable liquid with dry chemical powder at the National Bureau of Standards. The method shown here was used for fires of 6-in. and 22 4/5-in. diameter in studies of the extinction efficiency of various powders.

Table 1

MINIMUM EFFECTIVE RATES OF POWDER APPLICATION  
FOR VARIOUS FIRE SIZES AND POWDER TYPES

Fire Diameter	Minimum Effective Powder Application Rate				Ratio of Powder Application Rate to Fuel Consumption Rate
	NaHCO <sub>3</sub> required as multiple of that for:				
	NaHCO <sub>3</sub>	KHCO <sub>3</sub>	KI	K <sub>2</sub> C <sub>2</sub> O <sub>4</sub> H <sub>2</sub> O	
in.	cm <sup>2</sup> /sec				cm <sup>2</sup> /ml
1.12	68	2.1	4.5	4.9	8.7 × 10 <sup>3</sup>
6.0	2,100	2.6	2.3	4.2	9.1 × 10 <sup>3</sup>
22.8	25,500	2.7	2.7	4.6	4.2 × 10 <sup>3</sup>
40.6*	200,000	—	—	—	6.2 × 10 <sup>3</sup>

\*From data by Hird and Gregsten

the minimum powder application rate required for flame extinction.

In initial experiments, powder was placed in a salt-shaker type of dispenser. It was sifted from this container through the screen bottom by an electromagnetic vibrator. A cup was used to measure powder application rate, and a second cup contained the burning heptane. Both cups were of 1 1/8-in. diameter and were placed on a platform moving them at a uniform rate through the powder cloud.

The cloud either did or did not extinguish the flame, depending on conditions of the experiment. Equipment was enclosed in a box which permitted close control of ambient variables.

Experiments with this equipment determined the rate of powder application (powder surface area per

unit time) needed for extinction, as a function of the particle size. Results of at least 20 individual tests for each powder size sample were noted. These results were then analyzed statistically to determine the required application rate.

Potassium oxalate was found to be more effective than potassium iodide which, in turn, was more effective than potassium bicarbonate. Relatively high application rates for glass beads suggest a thermal mechanism alone is not sufficient to explain flame extinction by these powders. It appears both the chemical nature and particle size of the powders influence the required rate.

**Larger-Scale Studies.** To determine whether results from a 1 1/8-in. cup fire model are applicable on a larger scale, equipment and a method were developed for powder

application to larger fires. With this method, the powder was carried by a serrated rotor from a hopper to a port fed with compressed air.

The resulting air-powder mixture was fed next to a nozzle which produced a fan-shaped discharge, its rate governed by a variable speed motor. An infrared detector measured the time rate of extinguishment. Two dispensers of this type were constructed, one for the 6-in. diameter model fire tub and the other for the 22 4/5-in. model.

Fuel used was heptane floated on water. Fuel tubs were filled close to the brim so little freeboard existed. A circular collar of roughly twice the diameter of the fuel tub was placed around the upper edge of each tub. This assisted in stabilizing the burning process.

This equipment measured the time required for extinguishment as well as the effective rate of powder application. Potassium oxalate was found again to be the most effective of the powders.

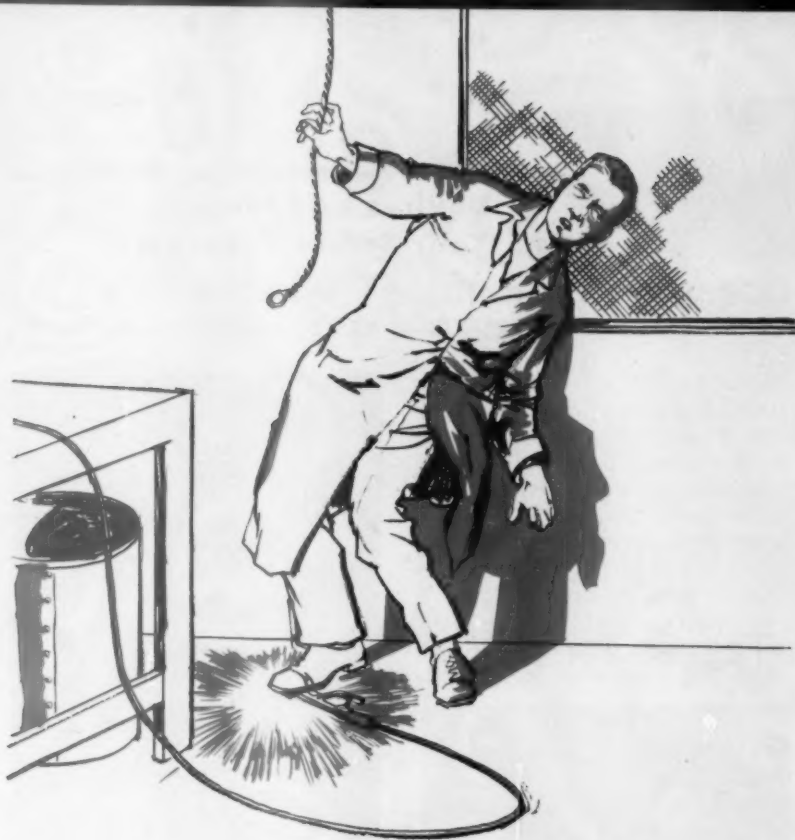
In all these studies, the presented data showed extinction time as a function of powder application rate expressed in terms of powder surface area per unit of time. Within the range of particle sizes studied, powder surface area seemed to be the best means for correlation of the data for a given material.

Surface area per unit of weight of powder sample or specific surface was determined from air permeability measurements.

Data obtained makes it evident that chemical composition, powder particle size, and application rate are all important in influencing the effectiveness of these extinguishing agents.

**Minimum Application Rates.** Table 1 presents data on minimum application rate (in powder surface area per unit of time) required for extinguishment of fire sizes of 1 1/8-, 6-, and 22 4/5-in. diameter by the four dry chemical powders. Neglecting experimental errors, the ratio shown in this table for a given chem-

— To page 97



## Welding Machines Require Constant Vigil

### Shock From Welding Tongs

A man was sent from a machine shop to collect a steel drum on which fabrication welding had been completed in the welding shop. In reaching down to pick up the drum, which was lying inside a welding booth, he caught hold of a wire rope sling hanging from an overhead crane. He then accidentally trod on live welding tongs which were lying on the floor of the booth and received a shock which threw him backward so he injured his back on a metal screen behind him.

The electric shock which he received was not serious. Nonetheless the injury to his back resulting from the fall caused him to be absent from work for over six weeks. The accident happened during overtime working when only a few welders were present and there was no work in progress in the booth concerned. The welding tongs were, however, live as they were connected to a

six-operator set supplying other booths in which work was being done.

Clearly it should have been possible to isolate each booth independently in such circumstances. The general standard of the installation in the welding shop was satisfactory in other respects, but attention should have been given to the importance of supplying either an installation switch or at the least plug and socket type connectors for each welding point, particularly for multi-operator sets.

### Starts Machine While In It

A welding equipment maintenance repairman was called to check an automatic welder that was not functioning properly. The operation sequence is such that a large sub-assembly is placed in position on a carrier on the carriage rails. The other part is handled likewise on a second carrier, and when the op-

erator depresses his control buttons, the two parts move together on the carriage rails and are welded into one unit.

When the trouble was experienced, the repairman climbed up on top of the machine and used a long piece of pipe to reach over and trip the overhead limit switch. This brought the two welding carriages together, crushing his leg between them. Fortunately, he suffered only minor abrasions and contusions.

In this case the power had to be on so that the repairman could observe the operation of the carriages. With his knowledge of the operation, however, he should have obtained a ladder or positioned himself in a safe spot to observe the action. After getting in a safe position, he should have asked the regular operator to depress the operating controls, rather than tripping the overhead limit switch himself.

### Throttle Too Near Open Fan

A welder with nine years' experience suffered cuts and bruises to the thumb and forefinger of the right hand when he pulled the throttle to speed up the welding machine. His right hand slipped into the fan blade, thus cutting his thumb and forefinger. The blade cut through the gloves the man was wearing.

Proper guarding of the fan blade and a more suitable location for the throttle will prevent such accidents on this type of equipment.

### Hidden Contact Gives Shock

A welder was preparing a work assignment in a garage area when he received a serious electric shock. The man had inserted the welder-plug into the 440 V wall outlet, but had not energized the motor switch. He took the ground clamp in one hand and rested the other hand on the housing of the welder unit. He was in that position when he received the electrical shock. The current, passing through his body, caused his muscles to contract and he either dropped the clamp or in some manner lost contact with the machine, thus interrupting the circuit. He did not suffer any burns to the

— To page 86

# IDEAS THAT WORKED

## Devices and Ideas to Help Your Safety Program

By ARTHUR S. KELLY, Industrial Department, NSC

### Toothbrush-Tagged for Safety

Unique among danger tags is this one used by Du Pont of Canada Limited, Shawinigan, Quebec. Based on the sound behavioral principle that few people, if any, would touch another person's toothbrush, the use of these danger tags has virtually eliminated borrowing of tags, sharing of tags, and the trouble of having to search for the tag when it's wanted.

H. Friendly, safety supervisor of Du Pont's Shawinigan Works, submitted the idea to us and indicates they have had very good luck with it. Shown at right, next to the brush, is the copy that was used to promote awareness of the danger tag problem. Comparing the function of tooth paste to that of common sense, the company suggested that efficient use of the brushes would have to become habitual.

#### DANGER TAGS

- Personal —  
You Don't Use Your Friend's Tooth Brush So Don't Use His "Danger Tag." Both Are Personal Property That Should Never Be Shared.
- Self Preservation —  
You Use A Tooth Brush To Save Your Teeth. Use A "Danger Tag" To Save Your Life.
- Efficient —  
Tooth Paste Makes A Tooth Brush Efficient. Common Sense Makes A "Danger Tag" Efficient.
- Habit Forming —  
"Danger Tags" Like Tooth Brushes To Be Effective Must Be Used Regularly. Acquire The Habit Now.

#### SEPTEMBER WINNER

Judges of the September Ideas That Worked column picked J. A. Dillan's "Safety Bowling Sweepstakes for the Transportation Department Championship." The sweepstakes pitted intra-departmental teams against each other to see who could produce the best safety record. The frames represented the months of the year, a strike stood for a month without personal injury, a spare for a month with some personal but no disabling injuries. Disabling injuries earned a "blow."

A special system of handicapping was devised to offset the varying man-hour exposures of the different teams and team members. Dillan is superintendent of safety and welfare for the Duluth Missabe & Iron Range Railway Co., Duluth, Minn.





## Cartoons Teach Safety Lesson

Though Frank "Bud" Fischer had never worked as a commercial artist, he managed to turn his hobby of cartooning for the entertainment of his seven children into an excellent accident prevention device. *Cooperation*, Kimberly-Clark Corporation's employee magazine, publishes his strips bi-monthly. The title he uses is "Axie and Dent on Safety."

The two characters Axie and Dent have achieved a great deal of

popularity around K-C's Memphis Mill, where Bud works as a Delsey tissue packer. The strip shown here was drawn by Bud especially to tie in with NSC's hard hat campaign and was sent to us by George Mariencheck, safety supervisor, Memphis Mill.

The adventures in safety through which Axie and Dent learn their lessons are somewhat reminiscent of the trials of the comics' Sad Sack.

### Safety Attendance Is in the Bag

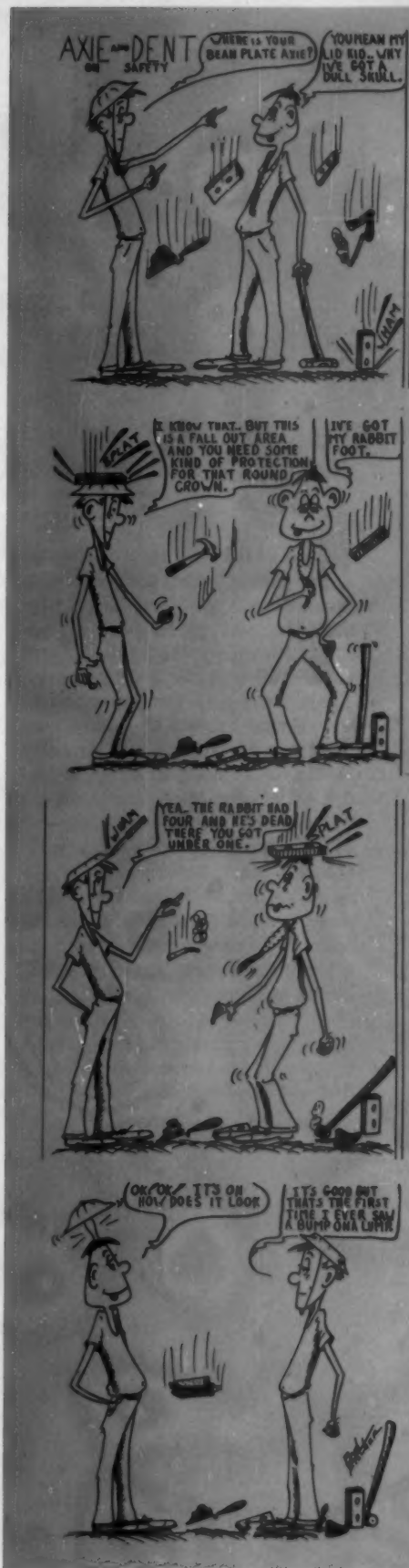


The contents of the brown paper bag did not include groceries but brought home the bacon just the same. In this case the "bacon" was increased attendance for safety meetings at Shell Pipe Line Corporation, Brownfield, Tex.

Attendance at Shell's meetings had long been a problem. Then P. J. Rogers, field gauger, hit on what turned out to be a very sound promotional idea. Clearly the only way to get all the local safety cats into Shell's bag would be to send each man an individual invitation that

would at once attract his attention and commit him to making the meeting.

Rogers sent out the bags stamped with the slogan "It's in the Bag" and bearing his address plus postage. He enclosed a little note which read, "Yes, it's in the bag . . . 100 per cent attendance at our next safety meeting. There's good reason too, because good attendance makes a good safety meeting. Good safety meetings help keep us safety minded. So, bring the bag—nosebag, that is, and come early."



# Man with a Mission

**Will Cameron, still regarded as Mr. Safety more than a quarter century after becoming the NSC's first managing director, is to be honored by the Council through an annual steel industry award**

**P**AINTERS were refurbishing the hallway as we left the hotel dining room. They had spread canvas over the carpet and topped it with a step-ladder. It was the ladder that caught the attention of our guest of honor.

His dark eyes were snapping as he wheeled around to address us: "There are no safety feet on that ladder. If a man was up there and the ladder slipped, he could have a bad tumble." His words came out with the crispness of a military officer making a report.

For an instant the years had fallen away—and he was once again the active, driving, demanding Mr. Safety of American industry: Will Cameron, managing director of the

National Safety Council from 1913 to 1942.

In honor of this man who probably more than any other single American gave safety the stature of a movement, the Council has established the William H. Cameron Award. The award, to be presented for the first time next year on the Council's golden anniversary, was initiated by a grant from American Iron and Steel Institute. Thus, the industry that had most to do with the Council's formation pays tribute to the man who guided it to greatness.

During lunch Cameron ranged happily in retrospect over the trails he had blazed and the men he had known. The clarity of his recollections belied his 84 years.

"Judge Gary, yes, he saw the importance of safety," Cameron said.

"He was one of the first in the steel industry who did. And he was high enough up so when he told his people to do something about cutting down accidents, they acted quickly."

In the library of the integrated steel company that Elbert H. Gary had long ago helped to assemble is a black leather booklet of wallet size, worn at the corners and with the gold letters on its cover nearly indecipherable. It offers mute evidence of how far back safety consciousness goes in the steel industry.

The title of the booklet: *Rules, Regulations and Instructions Governing the Safety Bureau of the . . . Steel Company*. The date of issue: July 1, 1903.

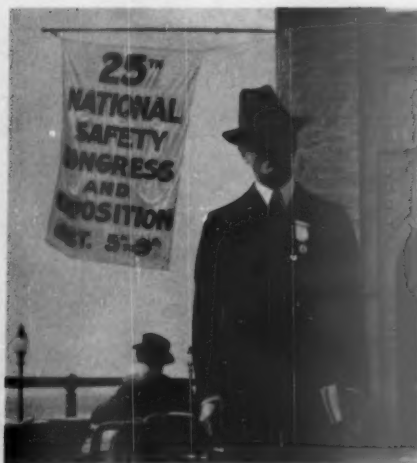
Those were tumultuous times for the United States. By the late Nineties the small handicraft shops had given way to factories whose smokestacks climbed into the sky. Men had learned how to develop the vast power that would make them more productive. Inventors were showing the way to new products eagerly sought by a growing population. Railroads unrolled bright carpets to the west for the adventurous to tread.

The country was bursting with energy and confidence.

But in the mills where the fires of industry were being stoked, men were suffering—some from unprotected machines, some from long hours, lack of ventilation or insufficient light, and some from lack of proper clothing.

Few employers realized the magnitude of the accident losses they

REPRINTED from the September 1961 *Steelways*, published by the American Iron and Steel Institute.



As managing director of the National Safety Council from its beginnings in 1913 until 1942, Will Cameron was a familiar figure at more than 25 National Safety Congresses. At left are photos showing him at the 1936 Congress at the Ambassador Hotel in Atlantic City, and at his desk in Chicago's Civic Opera Building, former Council headquarters, shortly before his retirement from active safety work.

were sustaining — loss of skilled employee services, of product, of equipment damage: all a part of the toll exacted for a dangerous work environment.

"Gary knew this all too well," Cameron resumed, sipping fresh coffee that had been brought to the table. "He was quite sure that if industry didn't do something about accidents, the federal government would. And he was equally certain that industry could do the job better than the government.

"Let me see, I think it must have been around 1907 that his name began to mean something to me. I was just a plant storekeeper in the American Steel Foundries — we were a manufacturer of railroad equipment. Gary persuaded our directors to have some studies made of how equipment could be better protected. Maybe he thought a good steel customer like us could show him something he might try."

Although he knew nothing about safety, Cameron was given the job of conducting the studies. The first thing he did was install mechanical guards around open gears and the cutting edges of tools. He had to make the guards himself, and their cost came out of a very small store-keeping budget. Then he watched results and kept tabs on the effect the safeguards had upon worker performance. This led to the development of a sustained program of injury prevention.

Gary was impressed by the young man's thoroughness, grasp of subject, and dogged devotion to the task. He made a mental note of it for later reference.



Sculptor Ralph Mensconi, commissioned to create a model for the William H. Cameron Award, puts the finishing touches on the plaque to be unveiled at the 1962 National Safety Congress.

About that same time a technical organization known as the Association of Iron and Steel Electrical Engineers was also becoming concerned with the health and welfare of industrial workers in its field. It appointed a safety committee, likely the first trade group in America to do so.

To AISEE's convention in Milwaukee in October 1912 went the safety committee chairman, Lew R. Palmer, a former All-American end at Princeton University and at the time a steel company supervisor in Pittsburgh. Every fifth man among the 200 attending the historic meeting in the Pfister Hotel came from the iron and steel industry.

Palmer brought along a mandate "to organize and to create a permanent body devoted to the promotion of safety to human life in the in-

dustries of the United States." At the end of five days it had been carried out with the selection of a committee to "undertake to act as a National Council of Industrial Safety (and) begin at once to formulate a plan for a 1913 Congress."

The following September the "Second Annual Cooperative Safety Congress" was held in New York and the National Council for Industrial Safety established.

Robert W. Campbell, a steelman, was elected president and to the all-important post of managing director came Will Cameron. The latter was leaving the American Steel Foundries, in which he had advanced to manager, casualty and safety departments.

A month later the newly organized Council opened a modest office in  
— To page 113

When several members of the National Safety Council's staff visited Will Cameron at his home in Evanston, Ill., they found flashes of the safety evangelism that sparked the Council for more than a quarter of a century. Near his 85th birthday, he still vividly recalls the early days of safety in the United States and the men of vision who with him laid the groundwork for a safer industrial America.





ACCORDING TO  
**Z16...**

**WORK  
CONNECTED**

**DAYS  
LOST**

**PERMANENT  
DISABILITY**

**ESTABLISHED  
JOB**

**By H. GENE MILLER**

Manager, NSC Research and Statistics Dept.,  
and member, Z16 Committee on Interpretations

## Injuries During Voluntary Work

THE Z16.1 STANDARD considers reportable any disabilities which arise out of and in the course of employment. Thus, a key term in determining the reportability of an injury is the word "employment."

The Standard defines employment as follows:

a. All work or activity performed in carrying out an assignment or request of the employer, including incidental and related activities not specifically covered by the assignment or request.

b. Any voluntary work or activity undertaken while on duty with the intent of benefiting the employer.

c. Any activities undertaken while on duty with the consent or approval of the employers.

It is quite evident, therefore, that if an injury occurred during any activity either closely or remotely connected with an employee's work, it should be assumed that the injury arose out of employment. Only if the activity is obviously unrelated to the employee's work need the question of employment be reviewed.

The part of this definition which gives rise to most problems is "b," regarding voluntary work that benefits the employer. The rule is not precise and each case in question must be interpreted individually. The following are cases which the Committee on Interpretations ruled did benefit the employer.

### Case Histories

**CASE 646.** A company executive had attended a regular weekly luncheon of a civic club in which his membership dues were paid by his employer. After the luncheon, as

the employee was entering his automobile, his left index finger was caught in the door causing a compound fracture.

**Decision:** The committee ruled that this injury should be included in the company's injury rates, on the basis that payment of the employee's dues to the civic club indicated that the company considered attendance at such functions good public relations.

**CASE 427.** A company engaged an independent elevator contractor to remodel the elevator system in the company's 11-floor office building. The job required that work be done on the elevator doors at each floor level. While work was in progress on the sixth level, an employee whose office was located on this floor stopped by to observe the work. While he was watching, one of the workers inside the elevator cab was trying to hand a wrench up to another worker on the roof of the cab. He was too short to reach, so the injured asked if he could help. He received an affirmative answer and was handed the wrench. He stepped into the cab with one foot and as he reached up to hand the wrench to the worker above, the elevator started upward. The injured jumped sideways into the hall, and as he landed he felt a sharp pain in his lower back. He returned to his desk and continued working for about two hours, then went home because of a severe headache. As a result of the injury, he lost six days' time.

**Decision:** The committee ruled that the injury should be counted

on the basis that the voluntary act of help was of benefit to the injured's employer since it facilitated repair work on the company's elevators.

**CASE 481.** A public utility substation electrician, working as one member of a crew, finished painting the transformers and other associated equipment. While the other members of the crew were changing their clothes, he climbed the substation tower to inspect some of the high voltage switch gear that looked "out of the ordinary" to him. There was an electric flash, and the employee fell to the ground dead.

**Decision:** The committee ruled that the injury should be included in the company's work injury rates. Although the employee's actions at the time he was fatally injured were not a part of his assigned job, he was working in the interest of his employer when he climbed the tower.

**CASE 406.** Injured was a substation operator and at the time of the accident was alone on his shift. Although he was neither authorized nor instructed to do any work other than his regular duties, he decided to saw a narrow strip of plywood to place in a desk drawer as a divider. To do this, he used a bandsaw. The bandsaw was not properly adjusted for the material, and in the operation of it, the employee severely cut his finger.

**Decision:** The committee ruled this case should be included in the company's injury rate. Although the employee was performing work not authorized by the employer, the work was for a company desk.



# INDUSTRIAL SKIN DISEASES

*Copies of this data sheet will be available for order within 30 days.*

## Introduction

1. This data sheet describes the two basic types of dermatitis, indicates the main causes of industrial skin diseases, discusses methods of prevention and control, and outlines the responsibilities which the various groups in an industrial organization must assume if dermatitis is to be prevented.

2. The importance of the industrial dermatitis problem is illustrated by the fact that industrial skin diseases account for about one half to two thirds of all compensation claims for occupational diseases. These claims are scattered throughout all types of industry and sometimes appear where occupational skin diseases may be least expected.

## Types of Dermatitis

3. There are two general types of skin reaction: primary irritation dermatitis and sensitization dermatitis.

4. Nearly all persons will suffer primary irritation dermatitis from mechanical agents such as friction, from physical agents such as heat or cold, and from chemical agents such as acids, alkalies, irritant gases and vapors. Brief contact with a high concentration of a primary irritant or prolonged exposure to a low concentration will cause inflammation. Allergy is not a factor in these conditions.

5. Sensitization dermatitis, on the

This data sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This data sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

other hand, is the result of an allergic reaction to a given substance. This type of dermatitis can be recognized primarily by the fact that the sensitivity becomes established over a relatively long induction period which may be a few days to a few months. In most cases, it is ten days to a month. After the sensitivity has become established, exposure to even a minute amount of the sensitizing material is likely to produce a severe reaction.

6. There are various grades of sensitivity, and many people who are sensitized to the materials they are handling can continue to work with them without trouble if they simply take precautions against direct contact. With a high grade of sensitization, however, it may be difficult or impossible to control the exposure sufficiently to permit the individual to go on working with the material.

7. Some substances can produce both primary irritation dermatitis and sensitization dermatitis. Among them are organic solvents, formaldehyde, and chromic acid.

## Causes of Occupational Dermatitis

8. Causes of occupational dermatitis are classified under these main headings: chemical agents, mechanical agents, physical agents, plant poisons, and biological agents.

9. The predominant causes of dermatoses in manufacturing industries are *chemical agents*. For this reason, the table in this data sheet is concerned only with these agents. The information given includes the action of the listed chemicals on the skin as either primary irritants or sensitizers. The table is not, of course, exhaustive in any respect. Its purpose is simply to provide quick reference data on some of the more common chemical irritants.

10. Cutting oils and similar substances are especially important chemical agents because the oil dermatitis which they cause is probably of interest to a larger proportion of industrial concerns than is any other single type of dermatitis.

11. *Mechanical causes* of skin irritation include friction, pressure, and trauma. If the horny layers of the skin become softened by high temperatures and excessive perspiration,

tion, the development of friction (for example, between the buttocks) then leads to dermatitis. Other examples of mechanical causes are low atmospheric pressure in high-altitude flying, and abrasions.

12. The chief affections resulting from mechanical agents are cuts, which may become infected with either bacteria or fungi, and callosities.

13. Among the *physical agents* which lead to occupational dermatitis are heat, cold, water, sunlight, X rays, ionizing radiation, and electricity. Hot water softens the skin so that substances more readily attack it, as typified by dermatoses occurring among laundry workers and dish washers.

14. X rays and ionizing radiation may cause dermatitis, severe burns, and even cancer. Prolonged exposure to sunlight produces skin changes which may cause dangerous body alterations. Frostbite produces chilblains.

15. *Plant poisons* which can cause dermatitis are produced by several hundred plants. The best known are poison ivy, poison oak, and poison sumac.

16. Dermatitis from these three sources may result from bodily contact with any part of the plant, from exposure of any part of the body to smoke from the burning plant, or from contact with clothing or other objects which have previously been exposed to the poison.

17. *Biological agents* which cause dermatitis may be bacterial, fungous, or parasitic.

18. Anthrax from handling hides, tularemia from handling skins, glanders from handling horses, erysipeloid from handling animal products, boils and folliculitis caused by staphylococci and streptococci, and general infection from occupational wounds are probably best known among the skin infections resulting from bacteria. Skin infections also occur among butchers and persons who have to handle cadavers.

19. Fungi cause athlete's foot and dermatitis among kitchen workers, bakers and fruit handlers,

fur, hide, wool handlers and sorters, barbers, and horticulturists.

20. Affections from parasites, typified by grain itch and ground itch, occur among handlers of grains and straws, and particularly among farmers, laborers, and miners, fruit handlers and horticulturists.

#### Causative Factors

21. Classification of specific agents responsible for industrial skin diseases according to how they act upon the skin lists these agents under various types of causative factors. The relative importance of these causative factors varies from one industry to another, depending upon the materials and processes used. The determination of specific causative factors in cases of industrial skin disease is, of course, a problem for the dermatologist.

22. The causative factors are listed as follows:

a. *Detergents and keratin solvents.*

These are substances which either remove the natural oils from the skin or set up a reaction with the oils of the skin to increase susceptibility to affections from chemicals which ordinarily do not affect the skin. Materials which remove the natural oils include alkalies, soaps, and turpentine. Typical materials which increase susceptibility are cottonseed and olive oils, alcohol, phenylene bases, and several of the aromatic hydrocarbons.

b. *Dessicators, hygroscopic agents, and anhydrides (water removers).*

These substances take the water out of the skin and generate heat. Examples are sulfur dioxide and trioxide, phosphorus pentoxide, strong acids such as sulfuric, and strong alkalies such as potash.

c. *Protein precipitants.* These materials tend to coagulate or to callous the outer layers of the skin. They include all the heavy metallic salts and those which form alkaline albuminates on combining with the skin, such as mercuric and ferric chloride. Alcohol, tannic acid, formaldehyde, picric acid, phenol, and intense ultraviolet rays are other examples.

d. *Hydrolytic or electrolytic materials.* These are substances which unite with water of the skin and thus form irritating compounds or which dissociate into irritating elements when in contact with water or electricity. In either case heat is liberated on the skin dur-

ing the reaction. Examples of such substances are mustard gas, ammonium nitrate, and hexamethylenetetramine.

e. *Oxidizers.* These substances act by uniting with hydrogen and liberating nascent oxygen on the skin. Such materials include nitrates, chlorine and water, iodine, bromine, hypochlorites, ferric chloride, hydrogen peroxide, chromic acid, permanganates, ammonia, and ozone.

f. *Toxic nitro-derivatives.* These are solvents of essential skin constituents. Examples are TNT, DNT, tetryl, picric acid, phenols, and cresols.

g. *Keratogenic and neoplastic agents.* These are materials which act by stimulating abnormal growth in the outer layer of the skin and which may cause either malignant or benign tumors. Examples are arsenic, coal tar products, petroleum and shale, and some coal tar bases such as naphthylamine (B). (Aniline does not cause cancer.)

h. *Biotic agents.* These are microorganisms and parasites (vegetable and animal) which act on the skin to produce dermatitis, such as athlete's foot.

i. *Allergic or anaphylactic proteins.* In sensitive persons these antigens stimulate the production of antibodies which cause skin reactions. The sources of these antigens are usually cereals, flour, and pollens, but may include feathers, scales, flesh, fur, and other emanations.

j. *Reducers.* These materials break up water on the skin and thereby free hydrogen, which thickens the outer skin layer and, if the solution is strong, causes shedding of the horny layers. Examples are photographic developers, tar, phenols and naphthols, aromatic and aliphatic hydrocarbons, salts of titanium and hydroquinone, resorcinol, formalin, paraldehyde, salicylic, formic, and oxalic acids.

#### Physical Examinations

23. Preplacement examinations will help identify those people who may be especially susceptible to skin irritations. The physician in charge of the examination should be provided with detailed information regarding the type of work for which the applicant is being considered. If the work involves exposure to skin irritants, the physician should determine whether or not the prospective employee possesses deficiencies or

# CHEMICAL CAUSES OF SKIN AFFECTIONS

IRRITANT OR AGENT	Primary Irritants	Sensitizers	Manifestations of Irritating Action on the Skin (More important damages may result in other organs.)	Typical Occupations, Trades, or Processes Where Exposure May Occur
<b>ACIDS</b>				
Acetic	X		Dermatitis and ulcers	Manufacturing acetate rayon, printing and dyeing, hat makers
Carbolic	X		Irritation and erosion of skin, eczema, anesthesia	Carbolic acid makers, disinfectant manufacturing, dye makers, pharmaceutical workers, plastic manufacturing
Chromic	X	X	Ulcers ("chrome holes") on skin, inflammation and perforation of nasal septum	Platers, manufacturing chemicals and dyestuffs
Cresylic	X		Irritation and erosion of skin, anesthesia	Manufacturing disinfectants, coal tar workers, cresylic acid workers
Formic	X		Blisters and ulcerations	Formic acid workers, mordanters, cellulose formate makers, airplane dope makers
Hydrochloric	X		Irritation and ulceration of skin	Bleachers, picklers (metals), refiners (metals), tanners, chemical manufacturing
Hydrofluoric	X		Severe burning of skin, erosion, ulcers, formation of blisters	Enamel manufacturing, etchers, hydrofluoric acid makers, antimony fluoride extractors
Lactic	X		Ulcers (if strong solutions are used)	Dyeing, felt hat industry
Nitric	X		Severe skin burns and ulcers	Nitric acid workers, electroplaters, metal refiners, acid dippers, nitrators, soda makers
Oxalic	X		Local caustic action on skin, bluish discoloration and brittleness of nails	Tannery workers, blueprint paper makers, oxalic acid makers
Picric	X		Red rash (resembling that of scarlet fever), itching skin, a yellow discoloration of skin and hair which is neither a dermatitis nor a dermatosis	Explosives workers, picric acid makers, dyers and dye makers, tannery workers
Sulfuric	X		Corrosive action on skin, severe inflammation of mucous membranes	Nitrators, picklers (metals), acid dippers, chemical manufacturing
<b>ALKALIS</b>				
Calcium cyanamide	X		Irritation and ulceration	Fertilizer makers, agricultural workers, alkali salt makers
Calcium oxide, carbonate, and hypochlorite	X		Dermatitis, burns, or ulcers	Lime workers, manufacturing of calcium carbonate, soaps, fertilizer
Potassium hydroxide	X		Severe burning of skin, deep-seated persistent ulcers, loss of fingernails	Potassium hydroxide makers, electroplaters, paper, soap, and lye makers
Sodium hydroxide	X		Severe burning of skin, deep-seated persistent ulcers, loss of fingernails	Sodium hydroxide makers, bleachers, soap and dye makers, petroleum refiners, mercerizers, tannery workers
Sodium metasilicate	X		Blisters, ulcers	Manufacture of sodium metasilicate and scouring powders
Sodium silicate	X		Thickening of skin, ulcers on fingers	Bleachers, manufacturing cardboard boxes
Sodium or potassium cyanide	X		Blisters, ulcers	Electroplaters, case hardening, extraction of gold
Trisodium phosphate	X		Blisters, ulcers	Manufacturing scouring powders and cleansers, industrial cleaning
<b>SALTS OR ELEMENTS</b>				
Antimony and its compounds	X		Irritation and eczematous eruptions of skin	Antimony extractors, glass and rubber mixers, manufacturing of various alloys, fireworks, and aniline colors
Arsenic and its compounds	X	X	Darkening of skin, perforation of nasal septum, epithelioma, formation of horny growth or tissue on palm, eczema around mouth and nose (possible loss of nails and hair)	Artificial leather makers, carroters (felt hats), manufacturing insecticides, glass industry and vermicides, manufacturing artificial flowers, calico printing



# CHEMICAL CAUSES OF SKIN AFFECTIONS

IRRITANT OR AGENT	Primary Irritants	Sensitizers	Manifestations of Irritating Action on the Skin (More important damages may result in other organs.)	Typical Occupations, Trades, or Processes Where Exposure May Occur
Barium and its compounds	x		Eczema, cyanosis of skin	Barium carbonate, fireworks, dye, and paint makers
Bromine and its compounds	x		Brownish stain and eruptions on skin	Bromine extractors, bromine salts makers, dye and explosive makers, photographic trades
Chromium and its compounds (Only the hexavalent chromium compounds are skin irritants.)	x		Pit-like ulcers ("chrome holes") on skin, perforation of nasal septum, eczematous eruptions	Chromium platers, dye industry workers, chrome manufacturing, leather tanners
Mercury compounds	x	x	Corrosion and irritation of skin, "mercurial eczema"	Explosives manufacturing, silver and gold extractors, manufacturing electrical appliances and scientific equipment, hat making
Nickel salts	x	x	"Nickel eczema." (some authorities question whether nickel is the agent responsible.)	Nickel platers, alloy makers
Sodium and certain of its compounds	x		Burns and ulcerations	Bleaching; soap, paper, glass manufacturing
Zinc chloride	x		Ulcers of skin and nasal septum	Manufacturing chemicals and dyestuffs
SOLVENTS Acetone	x		Dry (defatted) skin	Spray painters, celluloid industry, artificial silk and leather workers, acetylene workers, lacquer and varnish makers, electrical equipment manufacturing
Benzene and its homologues (toluene and xylene)	x		Dry (defatted) skin	Chemical, rubber, and artificial leather manufacturing, dry cleaning
Carbon disulfide	x	x	Dry (defatted) irritated skin	Extraction of oils, fats, and a wide range of other materials, manufacture of rayon, rubber, and a wide range of cements, germicides, and other materials
Chlorinated phenols	x	x	Severe eruptions	Treating wood
Petroleum distillates	x	x	Acne, epithelioma	Petroleum refiners, machinists, furniture polishers
Trichloroethylene	x	x	Dry cracked skin	Degreasers, paint removers
Turpentine	x	x	Red or blistered skin, eczema	Painters, furniture polishers, lacquerers
SOME DYE INTERMEDIATES Chlorinated compounds		x	Blisterlike eruptions	Dye manufacturing
Dinitrochlorobenzene	x	x	Blisterlike skin eruptions	Dye manufacturing
Nitro and nitroso compounds		x	Red skin and eczematous eruptions	Dye manufacturing
Phenyl hydrazine	x	x	Blisterlike skin eruptions	Dye manufacturing and pharmaceuticals
ACNE PRODUCERS Petroleum oils	x		Inflammation of hair follicles, acne, skin ulcers, boils, malignant tumors	Petroleum workers, machinists, mechanics
Pitch and asphalt	x		Eczema, inflammation of hair follicles, acne, formation of horny growth or tissue, tumors, epithelioma	Manufacturing paints and roofing cements, woodworking
Tar (coal)	x	x	Acne, eczema, and malignant tumors	Tar manufacturing; manufacturing roofing paper, felt, and pitch. Road building and repairing
DYES Including chemicals handled in dye manufacture		x	Red skin, blisterlike eruptions	Dye workers



# CHEMICAL CAUSES OF SKIN AFFECTIONS

IRRITANT OR AGENT	Primary Irritants	Sensitizers	Manifestations of Irritating Action on the Skin (More important damages may result in other organs.)	Typical Occupations, Trades, or Processes Where Exposure May Occur
<b>PHOTO DEVELOPERS</b>				
Metal dichromates, amidol, quinine, para aminophenol, etc.		x	Red skin, blisterlike eruptions	Photo developers
<b>RUBBER ACCELERATORS AND ANTI-OXIDANTS</b>				
Hexamethylenetetramine, para phenylenediamine, para nitrosodimethylaniline, and phenyl naphthylamine (B)		x	Itchy skin, dermatitis usually called "rubber itch"	Rubber workers, such as compound mixers and calender and mill operators
<b>SOAPS AND SOAP POWDERS CONTAINING AN EXCESS OF FREE ALKALIES</b>				
		x	Eczema, blisterlike eruptions, chronic abscesses	Soap manufacturing, dish-washers, scrub-women, soda fountain clerks
<b>INSECTICIDES</b>				
Arsenic	x		Red skin blisters	Manufacturing and applying insecticides
Chlorophenols (tetra and penta)	x	x	Red skin, blisters	Manufacturing insecticides, treating wood
Creosote	x	x	Pustular eczema, black discoloration of skin, warts, epithelioma	Manufacturing wood preservatives, wooden paving blocks, railroad ties, Lysol, oil pressed bricks
Fluorides	x		Severe burns, dermatitis	Manufacturing insecticides, enamel manufacturing
Phenylmercury compounds	x	x	Red skin blisters	Manufacturing and applying fungicides and disinfectants
Pyrethrum		x	Red skin, blisters, pimples	Manufacturing and application of insecticides
Rotenone		x	Red skin, blisters	Manufacturing and applying insecticides
<b>OILS</b>				
Cashew nut oils		x	Severe dermatitis, as blisters	Handlers of unprocessed cashew nuts
Cutting oils — oily emulsions or soluble oil mixtures		x	Oil acne, inflammation of hair follicles	Machinists
<b>RESINS</b>				
Coal tar products, such as pitch and asphalt	x	x	Acute dermatitis, "shagreen skin," acne, inflammation around hair follicles, epitheliomatous cancer, eczema, ulcers	Manufacturing various coal tar products, road making, gas manufacturing
Synthetic resins such as phenol-formaldehyde, urea-formaldehyde, cumarone, ester gums, glyptal, vinyl, furfural, cellulose nitrate, cellulose acetate	x	x	Intensely red and itchy skin	Plastic workers, varnish makers
(According to one authority, the reactions from this group of materials in some instances are due to the essential composition of the synthetic resin, but in other cases the reactions noted are due to the presence of added compounds such as plasticizers and other modifying agents.)				
Synthetic waxes, such as chloronaphthalenes and chlorodiphenyls		x	Dermatitis and acne	Manufacturing electrical apparatus, paints, varnishes, and lacquers
<b>EXPLOSIVES</b>				
Chlorates, nitrates, mercury fulminate, tetryl, lead styph-nate, TNT, amatol, DNT, dinitrophenol, etc.		x	Red skin, papular eruptions, severe irritation	Explosives manufacturing, shell loading

characteristics which are likely to predispose him to dermatitis.

24. Routine use of pre-employment patch tests to determine sensitivity to various materials is not recommended. Patch tests will not reveal whether new workers will become sensitized to certain materials and develop dermatitis, but only whether people who have previously worked on similar jobs are or are not sensitized to the chemicals with which they worked. Patch tests, moreover, are potentially harmful because they may induce sensitivity in persons who have never handled the materials.

25. The industrial physician has the primary responsibility for determining whether or not an applicant may be predisposed to skin irritations and for recommending suitable placement on the basis of these findings. Nevertheless, considerable responsibility also may fall to the safety and personnel departments, foremen, industrial hygienists, and other persons functionally responsible for accident prevention work and control of industrial diseases. These people should, therefore, have well in mind the following predisposing factors which may increase susceptibility to dermatitis:

- a. *Skin color.* Negroes and other dark-skinned individuals tend to be less susceptible than light-skinned persons to the action of most skin sensitizing and irritating substances and to the action of actinic rays, but it must be remembered that sensitizing chemicals can sensitize the skin of workers regardless of color or type of skin.
- b. *Sex.* Women notice even slight irritations that may be overlooked by men.
- c. *Health.* General ill health may make a worker particularly susceptible to skin infections.
- d. *Diet.* Faulty diet may result in extreme sensitivity in certain individuals.
- e. *Excessive perspiration.* Workers who perspire freely are particularly susceptible to dermatitis from certain substances.
- f. *Excessive oiliness.* Workers who have heavy and naturally oily skins are less likely to incur dermatitis when working with fat solvents, such as benzene, naphtha, trichloroethylene, and carbon tetrachloride. However, such workers



Figure 1. A painter's hands and arms showing occupational eczema resulting from use of turpentine.

are susceptible where the sensitizing material is readily dissolved in oil and is maintained in contact with the skin in that solution.

- g. *Excessive dryness.* Dry skin tends to crack easily, especially where frequent contact with alkalis or solvents is necessary, and thus becomes subject to infection (Figure 1).

26. When dermatitis suddenly develops among individuals on a job or an operation on which they have previously worked for some time without skin irritation, the affected employees should be sent immediately to the medical department or the company physician for examination and tests to determine whether they have acquired a sensitivity to the substance or substances they are handling. If such sensitivity has developed, the doctor may decide that the affected workers should be transferred to other jobs or should even stay at home until the hazard can be eliminated.

27. A study of the particular processes and materials should then be made to determine the offending substances, and after they have been located, appropriate preventive steps should be taken.

#### Eliminating Contact with Irritants

28. Before new processes are introduced and prior to the adoption of new or different chemicals in an established process, possible dermatitis hazards, including those which may be caused by trace impurities, should be carefully considered. Only a highly skilled and experienced

chemist can make analyses for trace impurities, and even he may have difficulty in finding them. Such analyses are justified, however, by the possibility that considerable benefit may be derived from them. Once the dermatitis hazards have been determined, suitable engineering control features should be devised at the planning stage so that they can be built into the processes or operations.

29. Exposure to the causes of industrial skin diseases varies considerably from one industry to another. Therefore, although specific preventive measures can be outlined for many types of exposure to dermatitis, it is advisable to solve each exposure problem individually after complete information on the conditions surrounding the job has been obtained. A thorough understanding of the basic methods of control will enable a plant to arrive at the simplest solution, which often is the most effective.

30. For example, on some wet polishing operations it has proved practical to install barriers to prevent skin irritants from splashing on operators. Before this simple solution was conceived, the operators were expected to wear protective clothing which covered a large part of the body. Since the clothing was uncomfortable, this regulation was difficult to enforce. The barriers not only furnished protection against the hazard, but also eliminated a supervisory problem.

31. The type and quantity of skin irritants used in various industrial processes affect the degree of control which can be obtained, but the primary objective in every case should be complete elimination of skin contact through change of the process or adoption of protective measures. Basic methods of control are indicated in the following paragraphs.

32. Some compounds can be successfully used when the percentage of the irritant in the compound is reduced. In other cases, a less irritating or nonirritating material can be substituted for a skin irritant. The supplier should be consulted since he may be able to provide a closely related and generally satisfactory substitute for the irritating material.



Figure 2. Acid hood of vinyl plastic that can be used to help protect against sprays of acids, caustics, corrosive liquids, or gasoline.

33. Where no substitute can be found for agents which produce skin irritation, they can best be prevented from entering the workroom air by installation of a complete enclosure for the process along with an exhaust system to remove the irritating materials to a collecting unit or to the outside air. Many operations involving the use of acids or caustics, vapors, dusts, and mists can be totally enclosed.

34. Where complete enclosure is not practicable, the irritants may be locally exhausted from the point-of-operation zone to prevent amounts sufficient to cause irritation from being dispersed into the workroom air. Local isolation of dangerous materials may also be possible.

35. The provision of barriers to prevent splashing of liquids, travel of rays, and dispersal of dust is often successful. Application of barriers in many cases depends only upon the ingenuity of the safety engineer or the individual workman. However, for protection against X-rays and ionizing radiation, it is essential to adhere to the precautionary measures established by the National Bureau of Standards, the American Standards Association, the U. S. Atomic Energy Commission, and others.

36. Exposure to irritants is often minimized by having workers wear personal protective equipment, such as coveralls or coats, gloves, sleevelets, aprons, caps, face shields, acid hoods (Figure 2), special shoes or boots, and other articles of protective attire that is most impervious

to the exposure. Provision of clean impervious clothing daily, such as long-sleeved and long-legged underclothes and coveralls which fasten at the neck, is recommended for many exposures.

37. On some jobs protective ointments may be successfully used to prevent contact with skin irritants. Such ointments must be selected on the basis of the physico-chemical characteristics of the specific irritants against which they are to be used. Otherwise, they may be useless as a means of preventing contact. For example, a water-soluble hand cream will offer little or no protection to a worker whose duties require him to dip his hands into water.

38. Before a particular protective ointment is purchased, its composition should be ascertained and its

protective ability evaluated. The supplier of the ointment should be asked to furnish proof that his product does protect against the particular skin hazard.

39. Satisfactory protection against some exposures may be provided by simple agents, such as cold creams, lanolin, petrolatum, and many other bland oils, or by compounds of these materials.

40. Where it is not possible to eliminate contact with solvents, it has been found expedient to have the employee, at the end of his shift, use some material which puts back into the skin the oil which has been removed by the solvents. This procedure should be adopted only where the plant physician or other competent person has passed on the advisability of using the material. Some



Figure 3. Wash facilities should be located conveniently and should be adequate for all needs.



substances which may restore oil to the skin are themselves irritants. One material which has been successfully used to replace oil removed from the skin is lanolin.

41. Particular attention to point-of-operation exposures to skin irritants may reveal improper materials-handling techniques which can be corrected by employee education. In some cases, use of a padding material such as sponge rubber can help prevent pressure injuries and callosities, or simple hand-operated mechanisms can be devised to eliminate contact.

42. In some processes, it is possible to reduce exposure by lowering the temperature of the process and decreasing the air motion around the operation. (Under some conditions, however, decreased air motion may promote rather than reduce exposure. It should be kept well in mind, therefore, that every exposure may require special study).

#### Hygienic Measures

43. Careful supervision of the personal cleanliness of workers exposed to skin irritants is essential to the prevention of dermatitis. Supervision is most successful where enough convenient and efficient washing facilities (Figure 3) are available to serve all the employees exposed and where the hygienic program set up in a department or a plant is designed in terms of the specific exposures and is based on clearly outlined and thoroughly understood procedures.

44. Workers should be instructed in specific procedures for cleanliness. They should be told where, how, and when to wash, and should be advised that they will be rated on this part of their job performance. They should be required to change their clothing and to take a shower before leaving the plant at the end of the shift.

45. For many exposures, frequent washing (Figure 4) alone proves a successful preventive, particularly where the dermatitis is caused by mechanical plugging of the pores, as from dust. In all cases however, the use of large quantities of water on the skin following exposure to irritants is necessary.

46. It may be advisable in some instances to use neutralizing solutions after a thorough flushing with



Figure 4. Safety poster that underscores the importance of washing by workers exposed to chemical skin irritants.

water. However, since some neutralizing solutions are themselves irritants, they should be applied only upon the advice of a doctor.

47. The question of the type of soap to use is important. Even a generally good soap may cause irritation on certain types of skins. For example, harsh mineral abrasives will cause dermatitis on many individuals unaffected by vegetable abrasives.

48. The choice of a good soap may in some cases involve technical considerations which are better left to the medical department or other qualified department than to lay persons. Following are some of the factors of particular importance in the selection of a soap:

- a. It should be freely soluble in hard or soft, cold or hot water.
- b. It should remove fats, oils, and other soil without harming the skin.
- c. It should not extract from the skin its natural fats and oils.
- d. It should not contain harsh abrasives or irritant scrubbers.
- e. It should be handy to use if in cake form or flow easily through soap dispensers if in granulated or powder form.
- f. It should not deteriorate or become insect infested.

49. A large number of cases of industrial dermatitis are reported to be caused not by substances used in processes, but by materials used

to remove those substances. Left to his own devices, the worker may be inclined to wash his hands in those cleaning agents which are most available and work the fastest — often dermatitis-producing solvents.

50. To combat this practice, the installation in work-area washing places (as well as in regular plant washing facilities) of soap-dispensing units containing properly selected cleansing agents has proved to be a valuable measure. Such units should be placed in convenient locations, and enough of them should be provided to accommodate all employees who are exposed to skin irritants. Where soap-dispensing units are furnished, workers should be required to use them.

#### Responsibility for Control

51. Top management, the safety department, the purchasing department, the medical department or company physician, the supervisors, and the workers themselves all have specific responsibilities for the prevention of industrial skin diseases and the control of exposure to skin irritants.

52. To control or eliminate dermatitis in a plant, management should first recognize the scope of the problem and then delegate authority for action to the proper persons. Where it is necessary to have more than one department work on phases of dermatitis control or elimination, the activities of those departments should be coordinated at the management level. Periodic reports on the status of the dermatitis problem within the organization should be made to management by its delegated representatives.

53. The safety department (or persons doing this type of work, such as safety committeemen and industrial hygienists) should gather information on dermatitis hazards of materials used in the plant and should disseminate this information among foremen and other operating personnel. This department should make periodic surveys to check for exposures to skin irritants and should suggest means to correct any hazards found.

54. The purchasing department can sometimes help prevent unwitting exposure to skin irritants by procuring from the supplier informa-





## Accident Prevention

**Accident Prevention Committee, American Public Health Association,  
Mr. Maxwell N. Halsey, Editor**

*Accidents don't happen; they are caused . . .* is the theme throughout this new book. ACCIDENT PREVENTION, the first work of its kind to bring together the concerted thinking of experts in various fields of accident causation, will serve as a valuable reference volume for physicians and public health workers. This book places before the reader the pertinent facts and data on safety and accident prevention that have developed up-to-date.

This new book stresses practical approaches to the accident prevention problem with the material presented against a backdrop of the basic principles involved. Some of the more important recent advances are: the

role of alcohol in traffic accidents, the role of physiological and psychological factors, off-the-job safety, seat belts, methods of evaluating results, etc. Emphasis is also placed on such environment factors in accident causation as roads, equipment, and weather in traffic accidents; or structural detail, household appliances, and lighting in home accidents.

**450 pp., 6 $\frac{3}{8}$  x 9 $\frac{1}{4}$ , illus., \$12.00**



THE BLAKISTON DIVISION  
McGraw-Hill Book Company  
330 West 42nd Street  
New York 36, N.Y.

The Blakiston Division, McGraw-Hill Book Co.,  
330 West 42nd St., N.Y. 36, N.Y.

You may send me on 10-day approval:

APHA: ACCIDENT PREVENTION . . . . . \$12.00

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

NSN-11/61

CIRCLE 14 ON READER CARD



Figure 5. Measures to help prevent this chloracne, caused by clothing soaked in cutting oils, would include after-work showers and a daily change of work clothes.

tion regarding the ingredients in a particular compound which have been known to give rise to skin affections. Such information should then be passed on to the operating departments prior to use of the material.

55. Also, the purchasing and operating departments, as well as the medical and safety departments, should be constantly on the alert to gather and utilize published data pertaining to dermatoses-producing agents.

56. The medical department or company doctor should make the preplacement physical examination, keeping in mind the skin irritants to which the applicant will be exposed and checking especially for factors which may predispose the individual to dermatitis. The company physician should also make periodic physical examinations of workers exposed to skin irritants, watching particularly for skin affections.

57. The medical department should work closely with the safety department and other departments to discover substances or conditions in the physical environment which may result in skin affections among employees. This department also should recommend the washing agents to be used where there are known dermatitis-producing materials.

58. Of major importance in the prevention of dermatitis is early de-

tection of skin injury and subsequent medical care. For this reason, employees should be required to report all skin irritations to their supervisors, and the medical department should check periodically for abnormal skin conditions in employees known to be exposed to irritants. These procedures enable a medical department to detect affections among employees who otherwise might fail to report what they consider to be trivial skin irritations.

59. Supervisors and foremen should see that machines and work areas are kept clean and that workroom floors are cleaned daily. It is also an essential part of their jobs to instruct workers regarding the skin hazards they are likely to encounter, to train them in the prescribed control measures, and to supervise them closely to see that they take the necessary precautions to prevent or minimize their exposure to skin irritants (Figure 5).

60. A worker who will be exposed to skin irritants should make sure that he understands the nature of the irritants, how they may affect his skin, and how he can protect himself against exposure. He should realize that dermatoses are likely to occur if he does not report all skin irritations, regardless of how minor, to his supervisor.

61. The worker should know how, when, and why he should wash

his hands, face, and body, and he should understand that his job performance rating will be affected by the way in which he meets his responsibility for keeping himself clean.

#### ACKNOWLEDGEMENT

The text of this data sheet, which replaces Health Practices Pamphlet No. 10, was originally reviewed by Louis Schwartz, M. D., Medical Director, U. S. Public Health Service (retired), and by the Industrial Department, National Safety Council. The Council gratefully acknowledges its obligation to the Safe Practices Conference Committee, to the Health Advisory Committee, and to individual experts for their valuable assistance. The present revised text was prepared by the staff of the Industrial Department, National Safety Council.

## MCA Publishes Tank Entry Pamphlet

An eight-page pamphlet on recommended safe practices and procedures for entering tanks and other enclosed spaces is available from the Manufacturing Chemists' Association, Inc.

The publication, tenth in the Association's Safety Guide series, emphasizes that hazards inherent in tank entry can be avoided or overcome by following three basic principles.

They are:

"Establish a definite system of pre-planning for tank entry and a worker instruction program;

"Prepare the vessel for entry by physically isolating it, cleaning it to remove contaminants, and testing it to insure absence of such contaminants;

"Use a formal permit system requiring written authorization for entry to be issued only after the supervisor in charge is satisfied personally with tank preparation, precautions to be taken, personal protective equipment to be used, and procedures to be followed."

The pamphlet suggests a sample work permit for employees entering the tank or enclosure, and recommends tools and protective clothing needed by employees. SG-10 is available from the Manufacturing Chemist's Association, 1825 Connecticut Ave., N.W., Washington 9, D. C. for 30c.

# FOAM TRUCKS

plus low-cost, self-contained fixed systems provide fast, economical fire protection for your plant

Progressive refineries throughout the world depend on foam trucks to aid in fighting fires in storage tanks and other primary hazards.

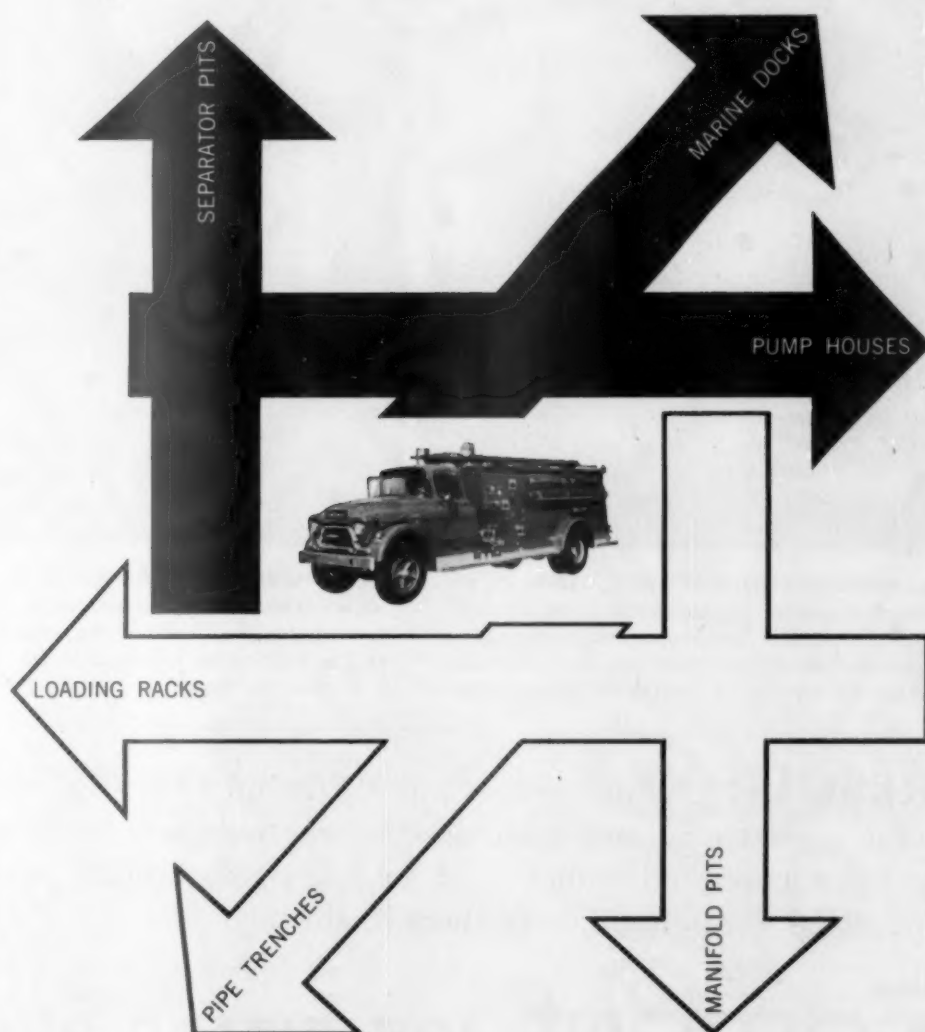
These trucks offer "plus" value by protecting secondary hazards such as loading racks and separator pits.

The plan is simple. A self-contained fixed system, with a foam proportioner, holds sufficient supplies of foam liquid to control the fire during the all-important first few minutes before the foam truck arrives. On arrival, the foam truck hooks its discharge hose into the downstream side of the proportioner, supplying all the foam liquid needed for complete extinguishment.

Our engineering department will gladly suggest designs for the fixed systems as well as Aer-O-Foam Trucks. Please indicate the nature of the risk you want to protect: ☐ separator pits ☐ pump houses ☐ loading racks

☐ marine docks ☐ manifold pits  
☐ pipe trenches ☐ other (explain).

**NATIONAL FOAM SYSTEM, INC.,**  
WEST CHESTER, PA.



# How quality controlled work gloves



**1: SAFE GLOVING IS NO ACCIDENT.** By developing work gloves that can be produced under rigid quality control, Edmont enables employers to specify gloves that are job-fitted, and have *the same wear and hand protection in every pair.*



**2: NEVER OVER A FRACTION OF AN OUNCE VARIATION** between any two pairs of these typical Edmonts (#922 Neox gauntlet). Quality control of all coating compounds and their application maintains the closest uniformity in weight and wear.

**5: RESULT:** Industry uses more Edmont coated gloves than any other for consistently better handling, fewer nuisance hand injuries, employee satisfaction and reduction of gloving costs. Leading safety, rubber and industrial distributors carry them in stock.

## Edmont JOB-FITTED GLOVES



# bring savings to your plant



**3: 100% INSPECTION.** No Edmont glove ever gets to a customer without being factory inspected. This quality control procedure insures that workmanship and finished gloves are always up to Edmont standards.

**4: WIDER CHOICE TO FIT ALL JOBS.** As leader, Edmont offers you the most complete choice of wear and chemical resistant coatings, lining fabrics, styles and sizes to provide the glove that best fits your particular job operation.

**FREE ON-THE-JOB TEST FOR D & B LISTED FIRMS:** Attach this job description to your letterhead and mail to Edmont Inc., 1205 Walnut St., Coshocton, Ohio. (In Canada, Edmont Canada Ltd., Cowansville, Quebec). We will recommend best suited glove and forward samples for testing on-the-job.

OPERATION REQUIRING GLOVES: \_\_\_\_\_

MAIN PROBLEMS ( ) Abrasion ( ) Cutting ( ) Grip ( ) Dexterity ( ) Chemical action

Name any liquids gloves will come in contact with: \_\_\_\_\_

Temperature Extreme \_\_\_\_\_ °F.

CIRCLE 16 ON READER CARD

# PERSONALS

News of people in safety  
and related activities

## American Oil Appoints Assistant Safety Manager

M. L. MULLINS has been appointed assistant manager of safety in the central employee relations department of American Oil Co., Chicago. He succeeds WILLIAM F. SCHREIBER, who has become employee relations manager of the Milwaukee, Wis., sales region.

Mullins was assistant supervisor of personnel development in the personnel relations division. He joined the company in 1945 as assistant personnel supervisor, Whiting, Ind., refinery, and was transferred to the central employee relations department at Chicago in 1950. He holds bachelor's degrees from Purdue University and Indiana State and a

master's degree from Indiana University.

Schreiber joined the company at Grand Rapids, Mich., in 1946 as an advertising clerk. He was appointed assistant to the credit manager at the general office in Chicago in 1951, returned to Grand Rapids in 1952 as assistant supervisor of personnel and safety, and was made employee relations representative in the Detroit, Mich., region in 1956. He became assistant manager of safety in the central employee relations department at Chicago in 1960. Schreiber is an alumnus of the University of Grand Rapids.

## Hatch Named To Advisory Post

THEODORE F. HATCH, educator and industrial hygienist, has been appointed a member of the Advisory Committee to the Surgeon General on Occupational Health.

Professor of industrial health engineering at the Graduate School of Public Health, University of Pittsburgh, since 1949, Hatch has been

active in the development of the industrial hygiene field. His earlier responsibilities included directing research for the Industrial Hygiene Foundation as well as teaching and serving with state health and labor departments.

Hatch has published more than 100 articles on various aspects of industrial hygiene: dusts, heat, engineering, analytical methods, and human engineering. He is co-author of the textbook *Industrial Dust*.

Hatch received his bachelor's degree from the University of Maine and his S.M. degree from Harvard. He belongs to the Society of Mechanical Engineering and the American Industrial Hygiene Association.

The committee to which Hatch has been named meets at least once a year to advise on needs and Public Health Service activities in the field of occupational health. Members of the committee are selected from industrial management, organized labor, state health and labor departments, and the professions in occupational health.



## Only Crosby-Laughlin shackles

say what they do  
do what they say

**Load-Rated®**

Guaranteed safe lifting capacity is permanently forged on every Crosby-Laughlin shackle. Size for size, they're fully 50% stronger than other makes!

Look for the RED color — mark of genuine Crosby-Laughlin quality.

CL-952



Free catalog gives application data for 2000 types and sizes of forged fittings for wire rope and chain. Ask your distributor for your copy.

**CROSBY LAUGHLIN**  
FT. WAYNE, INDIANA

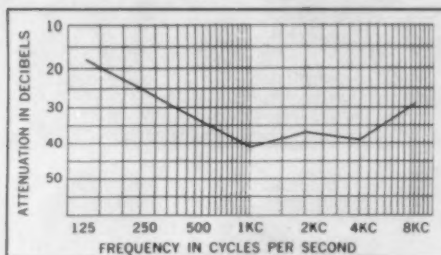
Division of  
**AMERICAN  
HOIST**

CIRCLE 17 ON READER CARD



## A NOTICEABLY MORE COMFORTABLE "QUIET-EAR"

with greatly improved  
attenuation in the important  
under-1KC frequency range



This is the 5N84—more thoroughly researched and developed answer to the costly and growing problem of depressing or harmful high level noise.

5N84 is completely new. Larger, impact resistant ear cups reflect more noise over a wide sound frequency range—with attenuation performance particularly improved in the low 125 to 1KC (cycles per second) area where the most damage occurs. New vinyl bonded polyvinyl chloride (for extreme temperature ranges) replaceable ear cushions and crown pad give optimum wearer comfort. Positive-locking crown band fits comfortably and neatly under any good hard hat such as the Bausch & Lomb line.

Smartly styled, easy to keep clean, the new Bausch & Lomb 5N84 Quiet Ear is the last word in modern hearing protection. (And you'll be surprised at its new economy!) Ask your supplier for complete information, or write: Bausch & Lomb Incorporated, 99723 Lomb Park, Rochester 2, New York.

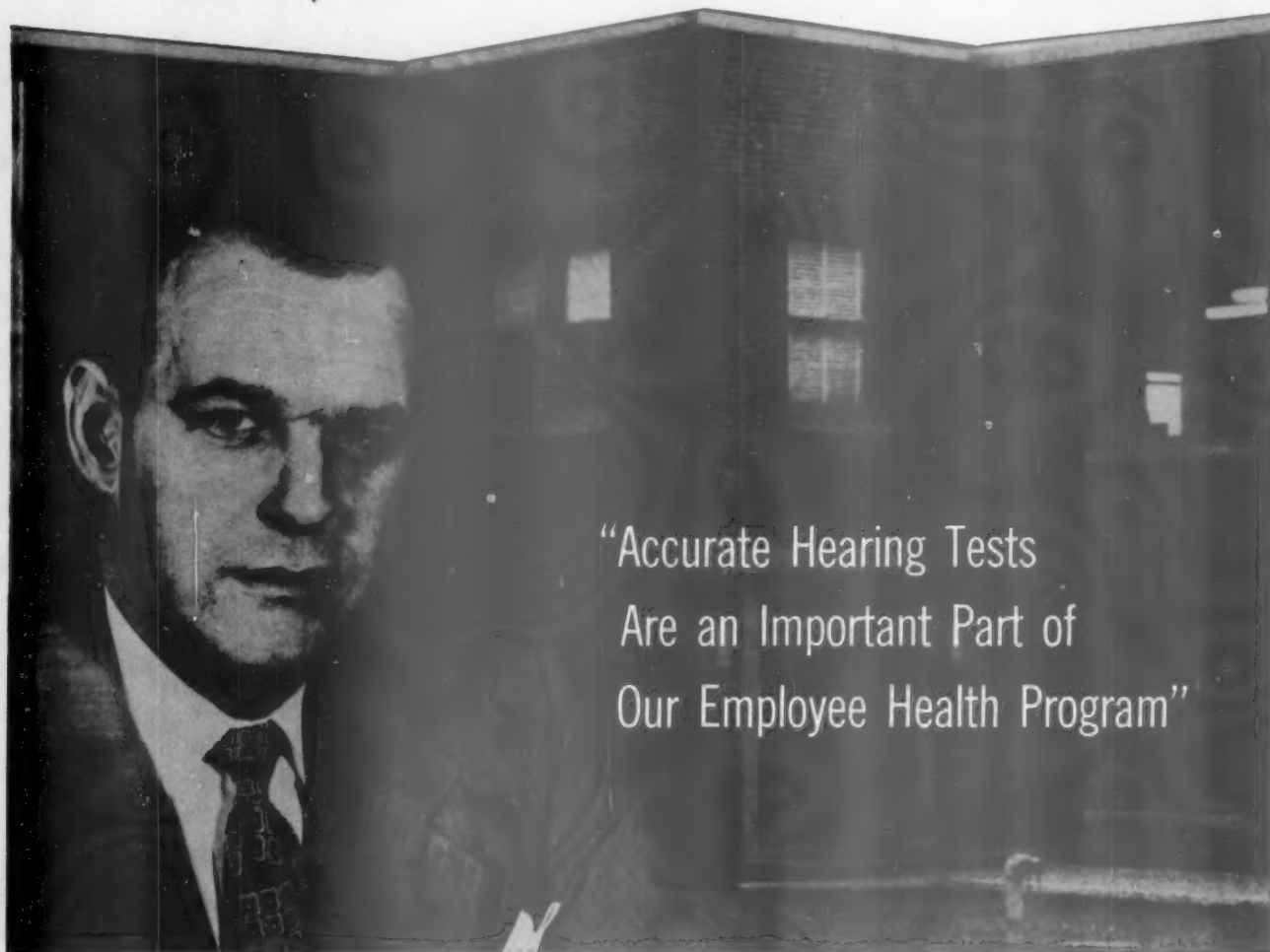


**Protection PLUS  
Safety Products**

protection + economy + worker acceptance



another industrial plant  
that relies on a . . . .



"Accurate Hearing Tests  
Are an Important Part of  
Our Employee Health Program"



"We know the importance of making accurate hearing tests for all our plant employees," says this company's Safety Administrator. "Our industrial health and safety program includes noise level reduction, personal protection in high noise areas and threshold hearing tests at regular intervals. With about 3,000 employees at this plant, this means our Maico Audiometer is in almost constant use, and, after nearly 10 years, is in excellent condition."



# MAICO AUDIOMETER

Hundreds of the nation's forward looking companies, have developed a hearing conservation program that protects the employees and management. Years of engineering research by Maico technicians in the laboratory and in the field have resulted in the world's finest and most accurate audiometers to augment hearing conservation programs. Government, schools, the armed forces and otologists recognize Maico as a leading maker of these fine precision instruments.



**Maico Industrial Audiometer**—The instrument of proven quality. Fast, accurate, dependable and easy to operate. Makes all hearing tests required for industrial hearing conservation program.



**Maico Portable Audiometer**—Can be easily carried from plant to plant or room to room. Handles all basic audiometric tests. Ideal for sweep checks or individual hearing analysis.



**Maico Audiograms Are Legal Records**—that assure you of permanent proof of a person's hearing acuity. They are your most dependable safeguard against unwarranted industrial deafness claims.

## New Free Booklet

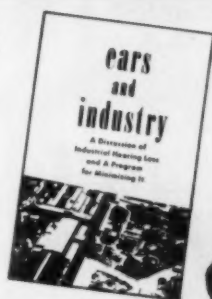
If your company does not have a hearing conservation program, write for interesting fact-filled booklet, "Ears and Industry" It's Free! Write to

**Maico**

**ELECTRONICS, INC.**

21 NORTH 3rd ST., MINNEAPOLIS 1, MINN.

Subsidiary of W. A. Sheaffer Pen Co.



CIRCLE 19 ON READER CARD



**NEW**  
EAR  
PROTECTORS

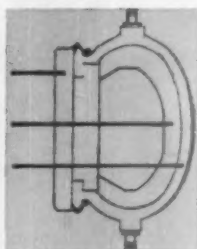
**SLIM DOMES**

**COMFORTABLE and  
LIGHTWEIGHT**

**REMOVABLE  
VINYL  
EAR SEALS**

Foam Filled  
Vinyl Covered Seal

New High Attenuation  
Filter Puffs  
Custom Moulded Domes



**Straightaway®**

U.S. PAT. NO. 2899683

BY

**DAVID CLARK CO.  
INC.**

360 PARK AVE.  
WORCESTER, MASS.

## 1962 Training Institute Schedule

THE SAFETY TRAINING INSTITUTE, which has been in operation since 1946, will again offer ten courses for safety men in 1962. All the courses have been thoroughly upgraded to meet the current needs of the safety man. For example, in the course Fundamentals of Industrial Safety, several elective subjects have been added, such as Fleet Operations and Employee Publications. This affords students a chance to choose subjects that are of special interest to them.

The 1962 schedule is:

### Fundamentals of Industrial Safety

January 15-19

March 12-16

April 30-May 4

June 4-8

November 26-30

### Safety Management Techniques

February 26-March 2

May 14-18

### Public Utilities—Fundamentals of Industrial Safety

April 9-13

### Industrial Hygiene for Safety Engineers

February 5-9

### Radiation Safety

March 26-30

For further information write to:

Registrar  
Safety Training Institute  
National Safety Council  
425 North Michigan Avenue  
Chicago 11, Illinois

## 1,000th Enrollment in NSC's Study Course

ROBERT H. SMITHERMAN, assistant director of maintenance at Baggett Transportation Co., Birmingham, Ala., was Number 1000 in the National Safety Council's home study course, "Supervising for Safety."

Mr. Smitherman assists in the supervision of all vehicle maintenance activities at Baggett. His office is at the company's headquarters in Birmingham, where the company's principal maintenance facilities are located.

A \$25.00 gift certificate was sent to Mr. Smitherman, and two gift enrollments were presented to the company, which promptly enrolled two supervisors in the course.



Robert H. Smitherman



## Let it snow

sleet, hail or storm. These insulated boots keep feet dry, warm and safe



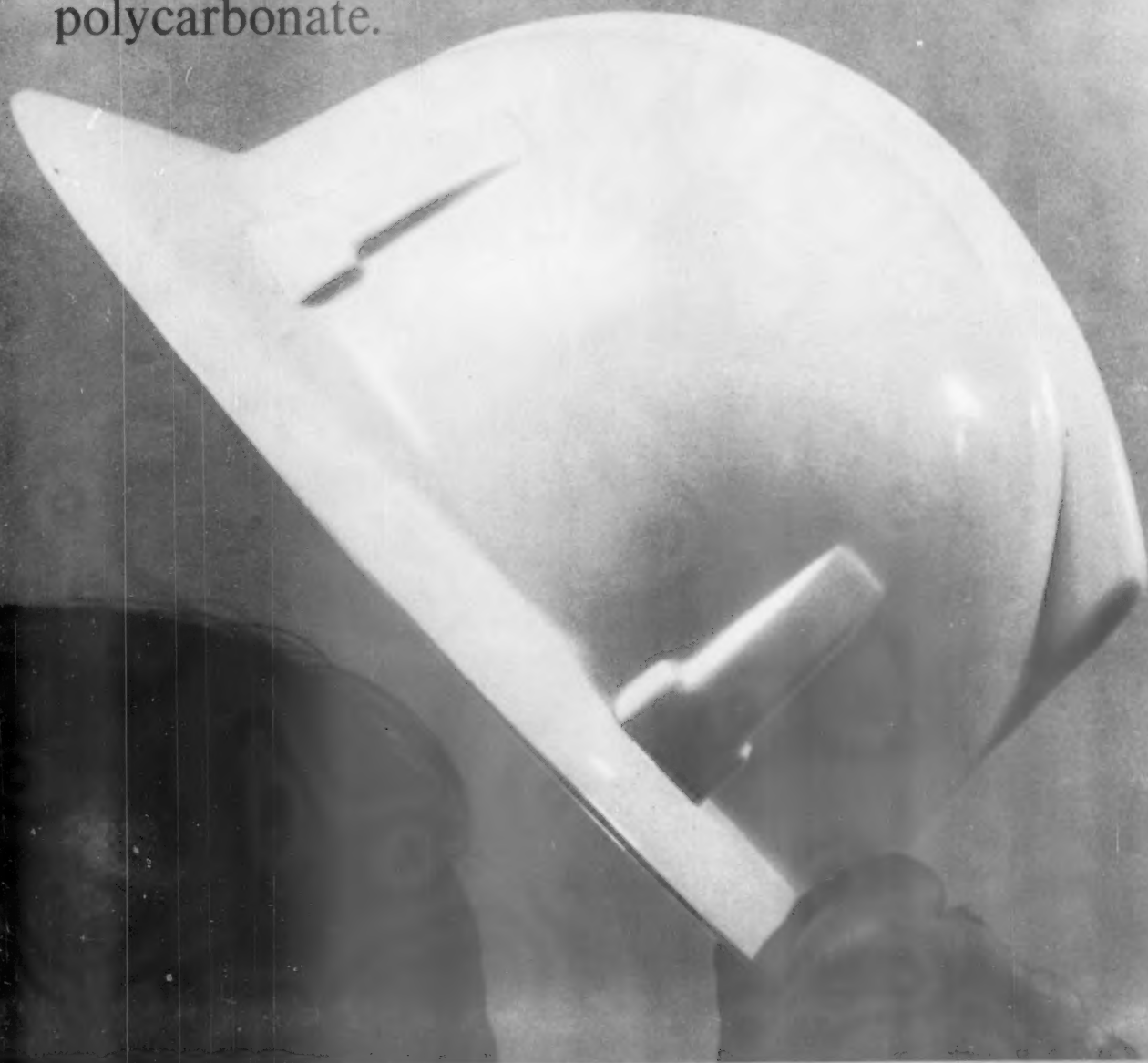
When you can't do anything about the weather, here's what to do about the weather. Step into a pair of fully-insulated Thom McAn safety boots. Both styles shown have Quilon®-tanned leather finish (water- and chemical-resistant). Both have leather-lined steel toe boxes. And comfortable cushion insoles. And full leather lining. Left: 8-inch boot, with storm welt and oil-resistant neo-cork sole and heel. Style 00286, sizes D, EE 6-12. Right: 6-inch boot, with oil-resistant white wedge Neoprene crepe sole and heel. Style 00288, sizes D, EE 6-12.

For details of Thom McAn's sales plans, illustrated list of safety shoes and set of safety posters, write Thom McAn Safety Shoe Division, 25 W. 43rd St., New York 36, N.Y.

**Thom McAn** SAFETY SHOES  
A DIVISION OF MELVILLE SHOE CORPORATION

An entirely new line of safety hats and caps—**M-S-A® TOPGARD®**—is available now in a remarkable new material.

It is injection molded from one of the exotic new high-impact engineering thermoplastics: polycarbonate.





This marks the first time polycarbonate—combining the impact strength of metal and the natural resilience of plastic—has ever been incorporated into the manufacture of a safety hat.

From the pilot plant stage, MSA's head protection engineers worked closely with the manufacturer of polycarbonate. Thus, as soon as polycarbonate was available in production quantities, MSA was ready with a new polycarbonate line of head protection: The M-S-A TOPGARD.

Your MSA sales engineer would welcome an opportunity to demonstrate the many advantages of the new M-S-A TOPGARD.



**MINE SAFETY APPLIANCES COMPANY**

Pittsburgh 8, Pennsylvania

*MSA backs up its label with selection, quality, research, experience*

# New Indoor Self-Adhesive Location Markers



**For Fire  
Extinguishers  
and  
Alarm  
Boxes**



When those precious seconds count . . . workers can instantly locate indoor fire extinguishers and alarm boxes by these brilliant, low-cost, easy-to-mount markers! Striking red and white moisture-proof plastic adheres quickly yet permanently to plaster, wood, metal, painted surfaces. Alarm sign (FA-PS) is approx. 13" x 18". Extinguisher sign (FX-PS) approx. 9" x 13". A vital safety device for factories, schools, hospitals, institutions, public buildings, warehouses, military and government installations, etc.

## FREE SAMPLE ↗

<b>N M</b>		<b>national marker corp.</b>	
221 Wampanoag Trail Riverside 15, R. I.			
Please send sample, folder and prices.			
NAME _____			
TITLE _____			
ADDRESS _____			
CITY _____		STATE _____	

CIRCLE 23 ON READER CARD



## Top Student

**J**OHAN M. WISEMAN, line foreman for the Consumers Public Power District in Kearny, Nebr., is the first person to make a perfect mark in the National Safety Council's Supervising for Safety course. Wiseman, a CPPD veteran of almost 19 years, not only made the first perfect score in the 12-part home study course, but also completed the course in the allowed time limit.

In commenting on the course, Wiseman stressed the on-the-job usefulness of the subject matter. "I have found the Supervising for Safety home study course a real source of information on how to do a better job of supervising," he writes. "This is true not only on matters that concern safety but also in the whole field of supervision. You soon discover that a course that makes safety an integral part of supervision also helps eliminate many of the other problems that face you."

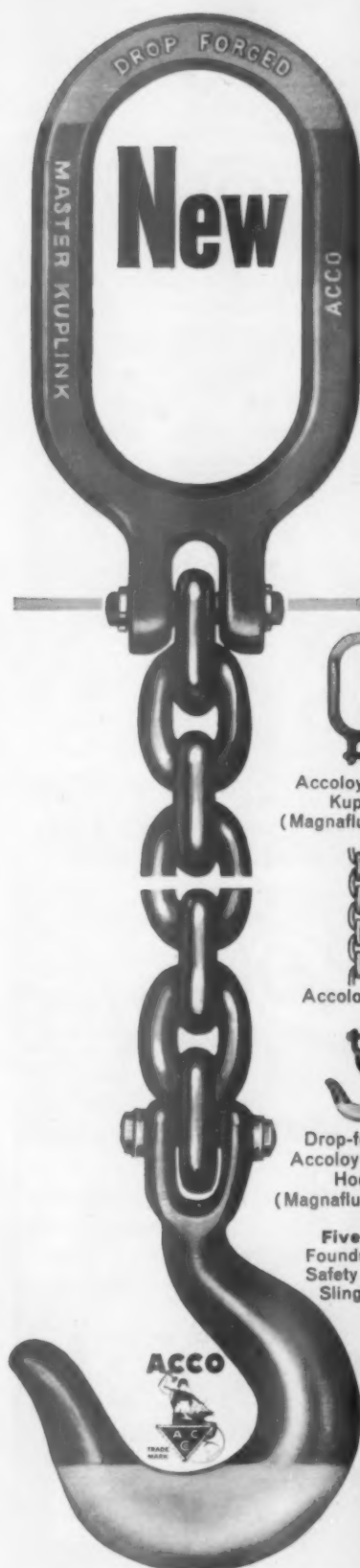
Safety did not come as something new to Wiseman. The Consumers Public Power District is an active member of the National Safety Council and has its own safety department under the direction of M. M. Mehrling.

"From the first day of employment," says Wiseman, "Consumers Public Power District has provided a well balanced and active safety and educational program. Moreover, the company, through its job-training department has provided financial assistance on this and other home study courses which the employees are encouraged to take."

Wiseman is one of several hundred foreman and other supervisory personnel throughout the nation enrolled in the NSC home-study course. The 12-part course includes sessions on machine guarding, hand and portable tools, fire prevention, materials handling, personal protective equipment, first aid, and other subjects important to supervisors.

(Inquiries on NSC's home study course should be sent to Mr. L. C. Smith, Industrial Training Director, National Safety Council, Chicago 11, Ill.)

**Another American Chain First!—**



# New Master Link (Kuplink)

**STREAMLINES**

**SLING ASSEMBLIES**

By combining master link and coupler for the first time, American Chain has created a new streamlined component and baptized it "Accoloy Kuplex Master Kuplink." Call it Kuplink for short. It sells for less than separate coupler and master link. It eliminates bulky coupling devices, reduces assembly time, improves performance of single leg chain assemblies.

Master Kuplinks are made from drop-forged alloy steel and are heat-treated to the same hardness specifications as Accoloy chain. Each is factory proof-tested to twice the working load limit of its corresponding alloy chain size. All links are Magnaflux tested to assure maximum forging quality. Master Kuplinks come in 8 sizes—for  $\frac{1}{4}$ " chain to  $\frac{7}{8}$ " chain.

Single-leg Kuplex slings with Kuplinks are available now from your nearby Authorized American Chain Kuplex Distributor. He's the man who will assemble and deliver Kuplex slings to your plant or job site in 24 hours. He can also supply you with double, 3-leg and 4-leg slings in six different sizes ( $\frac{1}{4}$ " through  $\frac{7}{8}$ " ) assembled from components carried in stock. Like Kuplinks, each is made from heat-treated Accoloy steel and proof-tested at twice working load limits—a fact attested to by the certificate which the distributor gives you with each Kuplex sling purchase. If you don't know his name, write us at York, Pa.

## KUPLEX ACCOLOY Sling Chains

American Chain Division • American Chain & Cable Company, Inc.  
Bridgeport, Conn. Factories: \*York and \*Braddock, Pa., \*San Francisco, \*Chicago (Melrose Park)  
Sales Offices: \*Atlanta, Boston, \*Chicago, \*Denver, Detroit, \*Houston  
\*Los Angeles, New York, Philadelphia, Pittsburgh, \*Portland, Ore. \*San Francisco  
In Canada: Dominion Chain Company, Ltd., Niagara Falls, Ont.  
\*Indicates Warehouse Stocks



Nov. 6-9, Chicago

Atom Fair 1961 (Conrad Hilton). Atom Industrial Forum. 850 Third Ave., New York 22, N.Y. (In conjunction with annual meetings of the American Nuclear Society and Atomic Industrial Forum.)

Nov. 8, Fort Worth, Tex.

Seventeenth Annual Industrial Institute (Hotel Texas). L. W. Graff, safety director, Fort Worth Safety Council, Majestic Building, Fort Worth 2.

Nov. 8-9, Columbia, S.C.

Twenty-fourth Annual South Carolina Accident Prevention Conference (Wade Hampton Hotel). Fred Derrick, South Carolina Industrial Commission, 1015 Main St., Columbia.

Nov. 13-15, 1962, Rochester, N.Y.

Third Triennial Genesee Valley Safety Conference and Exposition (Manger Hotel). William H. Keeler, director, Rochester Safety Council, 55 St. Paul St., Rochester 4.

Nov. 13-17, Detroit

Eighty-ninth Annual Meeting of American Public Health Association (Cobo Hall). Joseph G. Molner, M.D., Health Commissioner of Detroit, City Hall.

Nov. 21, New York City

Eleventh Semi-Annual Meeting and Midyear Conference of the Manufacturing Chemists' Association, Inc. Richard D. Lambert, Manufacturing Chemists' Association, Inc., 1825 Conn. Ave. N. W., Washington 9, D.C.

Dec. 6, Camden, N.J.

Nineteenth Annual South Jersey Industrial Safety Conference (Walt

Whitman Hotel). David W. Shoemaker, executive director, South Jersey Industrial Safety Council, 117 N. 6th St., Camden 2, N.J.

Dec. 10-12, New Orleans

Louisiana Safety Conference (Roosevelt Hotel). Dudley Andry, conference coordinator, 823 Perdido St., New Orleans 12, La.

Jan. 18-19, 1962, Milwaukee, Wis.

Annual Mid-Winter Safety Conference and Exposition (Hotel Schroeder). R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 119 E. Washington Ave., Madison 3, Wis.

Jan. 22-25, 1962, Philadelphia

Thirteenth Annual Plant engineering and Maintenance Conference and Show (Convention Hall). Clapp and Poliak, Inc., 341 Madison Ave., New York 17.

Feb. 7, 1962, Dayton, Ohio

Tenth Annual Miami Valley Safety Conference (Biltmore Hotel). Fred H. Lewis, manager, Dayton Safety Council, Biltmore Hotel, Dayton 2, Ohio.

INTRODUCING THE  
**gojo**

**3-STEP PROGRAM FOR HAND CARE**

Maximum Cleansing Effectiveness Plus Positive Precaution Against Skin Irritation



Helping squelch trouble before it begins, new Go-Jo Liquid Protective Skin Coat creates an invisible, greaseless barrier that prevents dirt and irritants from entering the pores. Liquid Protective Skin Coat does not impair sensitivity as do gloves and will not affect materials handled.



It's best to wash as often as grease and grime accumulate. (Prior application of Skin Coat facilitates clean-up.) Go-Jo Creme Hand Cleaner contains antiseptic GT-7 to help prevent irritation, and may be used without water for the frequent on-the-spot clean-ups.



Because its emollient ingredients replace natural skin oils and soothe tiny nicks and scrapes, it aids in keeping the hands in good condition for the next day's work.

The Go-Jo Heavy Duty Dispenser cuts handcleaning costs up to 75% by delivering the right amount of Go-Jo Creme Hand Cleaner for a quick, thorough clean-up. Precision engineering eliminates waste. FOR MORE INFORMATION WRITE: Dept. NSN 81

**THIS gojo TEAM COMBATS  
DIRT AND DERMATITIS WITH  
A SOLID ONE-TWO PUNCH!**



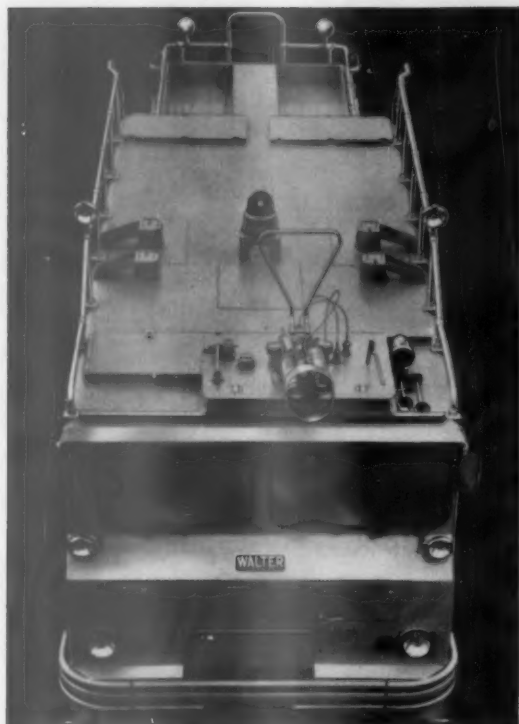
**GOJER, INC.**

Box 991  
Akron 9, Ohio

MANUFACTURER OF gojo PRODUCTS

CIRCLE 25 ON READER CARD





## SPEED RESCUES AT CRASH FIRES!

Step up your department's life-saving power . . . equip with Rockwood FOAM systems, nozzles, FOAM liquid.

Rockwood equipment, selected for fast, flame-smothering rescue action at airport crash fires, brings the same powerful protection to municipalities, chemical plants, refineries and all industry. Rockwood makes the most complete line of turrets and nozzles, to handle solid FOAM stream, FogFOAM, WaterFOG and solid water stream. Make sure your own trucks are equipped for maximum safety of lives and property! For details on the complete Rockwood line write to Rockwood Sprinkler Company, Portable Fire Protection Department, 465 Harlow St., Worcester 5, Massachusetts.

### ROCKWOOD SPRINKLER COMPANY

A Division of The Gamewell Company • A Subsidiary of E. W. Bliss Company

**Engineers Water . . . to cut fire losses**

*Distributors in all principal cities*



One of the largest, most effective Aircraft Rescue and Fire Fighting Vehicles is now in service at the Washington National Airport. Basic truck design is by the Walter Motor Truck Company. Fire fighting equipment specially designed by Rockwood includes: (1) 8000 GPM turret nozzle with hydraulic power control from within the cab or direct manual control from cab roof; (2) a ground sweep nozzle beneath the front bumper, which spreads a FOAM blanket to protect truck and crew; (3) nozzles for two handlines, discharging 600 GPM; (4) a FOAM proportioner for the pumping system. With Rockwood equipment, Rockwood FOAM liquid makes a powerful fire fighting combination.



CIRCLE 26 ON READER CARD

# Fire Tips for The Safety Man

By MARSHALL E. PETERSEN

Marshall E. Petersen is the consultant fire protection engineer for the National Safety Council's Industrial Department. He has a B.S. degree in safety and fire protection engineering from Illinois Institute of Technology. Petersen is a member of the American Society of Safety Engineers and the Greater Chicago Safety Council. Before joining the NSC staff, he was supervisor of safety and fire protection, Allied Chemical Corp.; industrial hygienist, Illinois Department of Labor; and safety engineer, Argonne National Laboratory.



## Foam Nozzle Is Mounted on Wheels

An innovation in foam fire fighting has been announced by National Foam System, Inc., West Chester, Pa. They have mobilized the foam nozzle by putting it on wheels.

The unit consists of an Aer-O-Foam PW-50 variable spray nozzle mounted on a two-wheeled running gear equipped with a drawbar which can be hitched to a foam truck or car. Hand grips aid maneuverability; the unit is light enough to be moved by one man if necessary. Mounted directly under the barrel of the nozzle is a cylindrical container for stowage of hose. When fire breaks out, the unit is moved to an ad-

vantageous point and the hose connected to a nearby foam truck or other source where foam liquid can be proportioned with water under pressure. Handles for control of stream direction are adjustable to the operator's comfort. The handles can also be secured in the ground, holding the nozzle in a stationary position.

The unit can throw a foam stream or a water stream as far as 225 ft. With a nozzle pressure of 150 psi, a straight foam stream ranging to 4000 gals. per min. can reach heights as great as 50 ft. A lever-action spray control handle allows the operator to change instantly, without shutting down, to any one of ten variations in pattern between full spray and straight stream.



Wheel mounted nozzle can throw foam stream to heights of 50 ft. under 150 psi nozzle pressure. Discharge can be changed through ten variations from full spray to straight stream.

## Ban Halogenated Extinguishing Agents

In November, 1958, the U. S. Coast Guard withdrew approval for the use of vaporizing liquid type fire extinguishers such as those containing carbon tetrachloride or chlorobromomethane. Coast Guard Regulations stated that any such extinguisher manufactured prior to August 29, 1958 may be continued in service until January 1, 1962 as long as it remains in good and serviceable condition.

In November, 1960, the Coast Guard specifications for extinguishers were revised. The new specification states that every portable fire extinguisher using toxic extinguishing agents shall contain only agents which qualify for Underwriters' Laboratories toxicity rating of Group 5 or Group 6, and which in normal fire extinguishing use do not generate decomposition products in concentrations hazardous to life. This rules out the use of carbon tetrachloride and chlorobromomethane and similar chemicals.

These chemical agents are dangerous to use on a hot fire in a small enclosure or poorly ventilated area because they decompose when heated to form phosgene and hydrogen chloride gases, both of which are toxic.

The State of Connecticut passed a law effective October 1, 1961, which is based on the Coast Guard regulation. It prohibits the use of these fire extinguishers in buildings regulated by the Fire Safety Code which includes all public buildings. It also prohibits their use in any school bus or public service motor vehicle.



## How to improve employee relations —increase your coverage

**MR. SAFETY DIRECTOR:** It's no problem to boost employee morale while increasing the effectiveness of your foot protection program. Just let an Iron Age safety shoe specialist use his experience in recommending the economical stock orders you need to upgrade your record.

There are over 50 Iron Age safety shoe styles available. They are purpose-designed for the working conditions involved. All, thanks to newly-developed lasts

and patterns, are comfortable. All feature the durability of top grade tannages, plus the flexibility and light weight of the latest advances in nationally advertised outsoles. These are *real quality* safety shoe values that your employees can see, feel and will buy.

Remember, our prompt service to every order assures you of *maximum sales with minimum stocks*. Write for your copy of our colorful 1961 catalog. Iron Age Safety Shoes, Pittsburgh 12, Pa.

CIRCLE 27 ON READER CARD

# Iron Age SAFETY SHOES

1205 Madison Avenue, Pittsburgh 12, Pa.





# only Willson offers you these 9 designs in safety equipment



**1. New, exclusive MonoMetal safety glasses.** Combine strength of metal frames with comfort of a plastic bridge. Molded snap-in bridge eliminates adjustable rocker pads, reduces inventories. Now you can earn all the savings of universal fitting with either Willson's plastic MonoSpecs® or metal-frame MonoMetal safety glasses. **2. New, exclusive Kwik-Klip headgear.** Adapts faceshields, welding helmets, scarfing shields, and goggles to any hard cap without alterations. Molded nylon hooks snap over cap brim for quick, secure fit... eliminate permanent attachments. To remove, just spread hooks and lift. Universally reusable—reduces inventory requirements. **3. New, exclusive voice transmitter and outlet valve.** For all models of Willson universal and industrial gas masks. First voice transmitter and outlet valve to be positioned directly in front of mouth for natural, straight-out voice transmission. Larger sound chamber and special vinyl diaphragm improve

clarity of voice—either person-to-person or phone conversation. B. of M.-approved. **4. Exclusive hinged-bridge Contour-Spec®.** Automatic bridge adjustment fits one size to all faces... replaces up to ten sizes of conventional safety glasses. Comfortable contour fit provides flexibility of cup-type goggles, lightweight protection of safety glasses. F7 or P3 lens shapes. Green- or flesh-colored frames and sideshields. **5. Exclusive Geodetic® hat and cap suspension.** Comfortable, scientific protection against impact shock. Available in all Willson Super-Tough® hats and caps. "Tamperproof" suspension dissipates impact force over wide head area, protects brain from shock waves, minimizes "bottoming" of hat shell. **6. Exclusive Sound Barrier®** with communications equipment. Patented fluid-filled cushions attenuate harmful high-frequency noise, but enable wearer to hear low-level instructions clearly. Replaceable, tough vinyl cushions are easily





PRODUCTS OF 

sanitized. Carbon microphone in mouth cup (shown) or on swivel boom drowns out background noise—increases productive efficiency. **7. New, exclusive MonoGoggles®.** Larger, wider, deeper, softer frame. Fits over any glasses. More effective lens area because of narrow lens retaining ring. Rolled edge provides comfortable contour fit on any face. Ventilated models have 40% more air slots than competition. Eleven styles: ventilated, indirect ventilation, and unventilated. Distortion-free lens of clear vinyl, or clear or green acetate. Yellow-frame model for chemical workers. **8. New, exclusive Tite-Seal® headgear.** User can don and fit gas mask airtight in four seconds. Two quick ratchet settings permanently adjust contoured nylon headgear with minimum tension. Fits easily over any head and under safety helmets. Lightweight, durable, easy to clean. B. of M.-approved with Willson-Scot-

toramic facepiece. **9. Exclusive MonoMask® respirator.** Soft, one-piece neoprene mask has molded pleats, shapes automatically and comfortably across the nose. B. of M.-approved for most dusts and mists. Only seven basic parts for crush-proof respirator. Simplifies cleaning, reduces parts inventory. Worn easily with glasses or goggles. See your Willson distributor for exclusive eye, head, lung, and ear protection.

**WILLSON PRODUCTS** • A Division of The Electric Storage Battery Company  
Reading, Pennsylvania • In Canada: Safety Supply Company



**WILLSON®**

CIRCLE 28 ON READER CARD

# OFF

## THE JOB

By **PAUL E. SHEPPARD**

Director, OTJ Safety Activities  
National Safety Council



### Christmas Cards Ask for Holiday Safety

Next month is holiday time and many ideas can be developed to promote off-the-job safety.

One idea now in use is a Christmas card signed by the company president or a safety director. The card wishes employees and their families a Merry Christmas and calls attention to the need for safety during the holidays and the coming year.

Gilbert Associates, Inc. prepared a card and sent it to all employees and their families last year. The safety director, J. O. Leslie, said in the card: "This is a natural occasion for each of us to focus, more clearly than at other times, on the real values of life. This is a season of reflection and of resolution.

"Among our reflections we find memories of joyous times spent with the family and loved ones; of

the bountiful blessings of life without fear in a free land.

"In our resolutions, may we be conscious of these real values and may we each do our part to assure their continuance.

"Best wishes for a Safe and Happy New Year." The card was signed by the safety director.

### Company forms Seatt Belt Club

Clark Bros. Co., Olean, N.Y., misspelled a word on purpose — an OTJ safety purpose. The company announced organization of its SEATT belt club composed of employees who install seat belts in their cars. The company sells seat belts at cost, provides bumper stickers to employees who buy.

The stickers proclaim the driver a member of Clark's SEATT Belt Club. The Company deliberately kept two "t"'s in "SEATT."

Explained Clark safety director, John Blair, "SEATT stands for the National Safety Council slogan: SAFETY EVERYWHERE...all the time! We thought it would be worth spelling seat with two 't's to remind everybody of the slogan too. "We want Clark people safe in their cars as well as safe at work."

The company hopes 1,000 Clark cars will be belt-equipped by January 1, 1962. Clark employs about 2,500 persons.

### WECO Goes All-Out for Vehicle Inspection

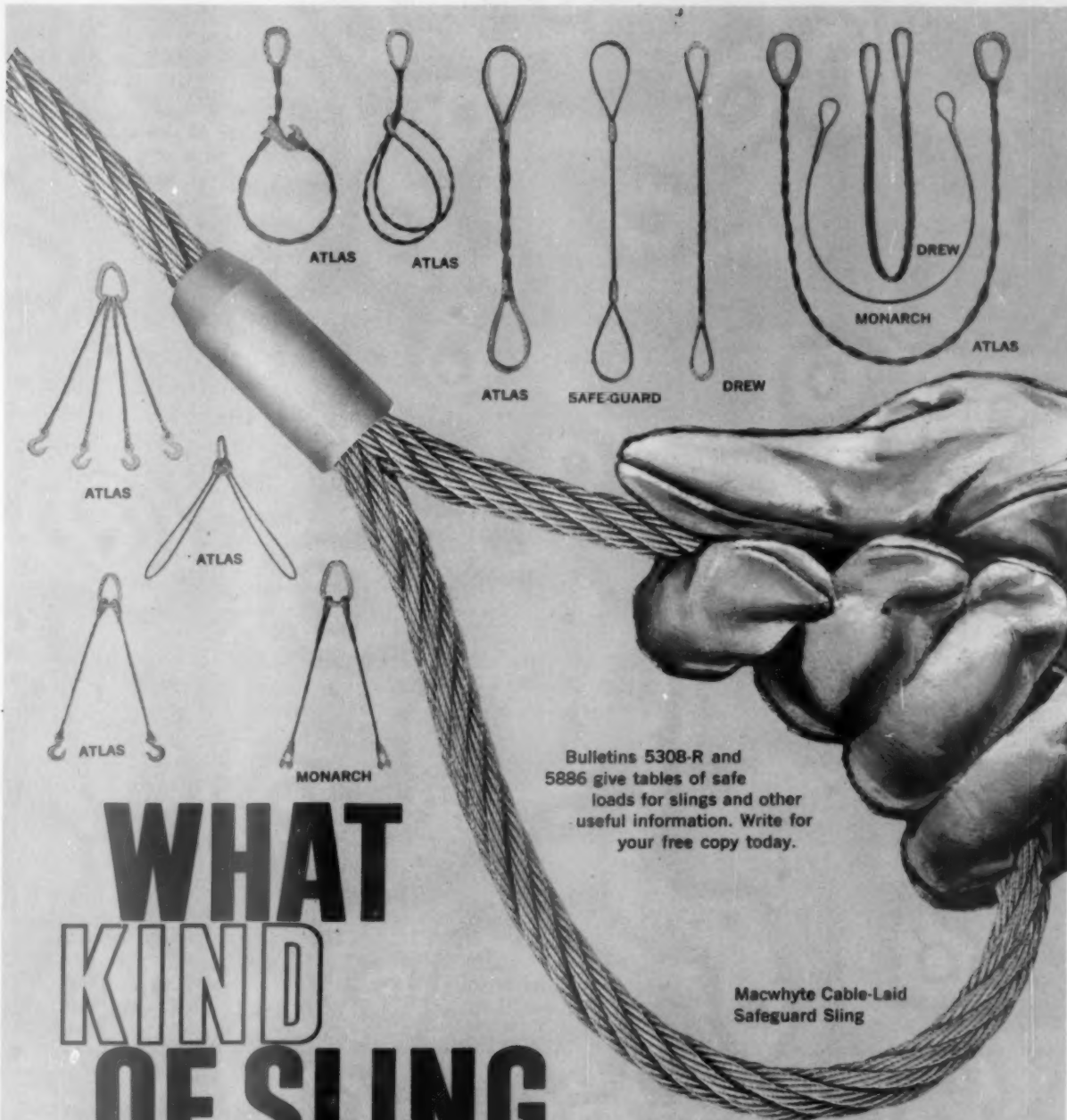
We recently received a report from Western Electric's Columbus, Ohio plant summarizing a vehicle inspection program they sponsored this year.

WECO coordinated the program with the Columbus Fire Department, the U. S. Post Office, Colum-

Christmas card developed for the employees of Gilbert Associates, Inc. Signed by the company safety director, it stresses inclusion of safety in activities throughout the year.



Carol Capozzi, employee of Clark Bros. Co., Olean, N.Y. and the company's safety director, John Blair, affix bumper sticker for Clark's new SEATT Belt Club.



# WHAT KIND OF SLING

New 20-minute film shows how to handle loads safely and economically with slings. Available without charge. Write to reserve it for your showing.



## GIVES YOU SAFEST, EASIEST SERVICE?

Whatever it is, Macwhyte makes it. The right Macwhyte is among hundreds of sizes and types designed for lightness, flexibility, and easy handling. Standard body styles include Atlas round-braided, Drew flat-braided, and Safe-Guard cable-laid. Special slings will be designed for your unusual load-handling conditions.

You can rely on Macwhyte distributors to give you the best wire rope and slings.

## MACWHYTE WIRE ROPE COMPANY

2900 FOURTEENTH AVENUE, KENOSHA, WISCONSIN

Wire Rope Manufacturing Specialists Since 1896

245

CIRCLE 36 ON READER CARD



## He's wearing safety... from the very start



At the start — He straps on PocketAIRE in no time.



On the way — No heavy bulk, no nuisance with PocketAIRE.

## PocketAIRE® is as handy as his helmet

Make sure every man in your own department gets this safety by equipping them with Rockwood PocketAIRE, the lightest, easiest-to-handle, self-contained oxygen breathing apparatus. PocketAIRE supplies pure oxygen — goes into action in 7 to 10 seconds — adds precious minutes to firemen's efficiency. Available in three models for a full 30, 20 or 10 minutes service time, weighing 10, 8 and 6 pounds — and including a safety cylinder allowing 5 minutes for escape. Refilling costs only pennies anywhere. For details, write to Rockwood Sprinkler Company, Portable Firefighting Department, 2041 Harlow Street, Worcester 5, Massachusetts. A Division of The Gamewell Co., A Subsidiary of E.W. Bliss Co. Distributors in all principal cities.

Photographed at Chelmsford, Mass. Fire Department. Fire Chief Ernest Zyam, Firemen Donald Gray, Allen Mello.



At the fire — PocketAIRE is as ready as he is.



Into action — His PocketAIRE model means 20 minutes of safe breathing.

# ROCKWOOD

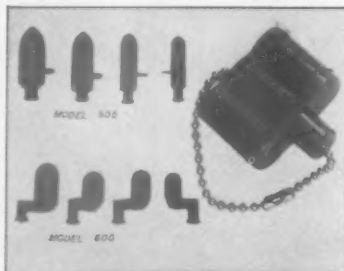
PORTABLE FIREFIGHTING EQUIPMENT

## Noise a Problem?

Soft, comfortable, resilient, the SMR EAR STOPPER adjusts itself to all shapes, turns and movements of the ear canal. Models 506 and 600 available in millimeter sizes 6 through 12. Furnished in a plastic carrying case. Forty-five cents per set in gross lots.

**SURGICAL MECHANICAL  
SMR RESEARCH, INC.**  
1905 Beverly Blvd., L.A. 57, Calif.

## CUT DOWN NOISE WITH S M R Earstoppers



CIRCLE 31 ON READER CARD

bus Police Department, Columbus Safety Council, Columbus Auto Club, Ohio State Highway Patrol, State Auto Club, Department of Highway Safety, Gahanna Safety Council and MAPS (Motorists and Pedestrian Safety).

The mayor of Columbus and the director of public safety gave the program their official endorsement and a date was set for Car Check Day.

Posters were used to announce the program and a special letter to all employees was used to tell the objectives of the program.

Plant promotion included table tent cards in the cafeteria, and fence banners around plant entrances.

A press conference and breakfast for members of the press, radio, and television was held and a press kit describing the program was distributed. Twenty-two representatives from the news media attended. The resulting coverage and support by newspapers, radio, and television was much greater than anticipated.

Exhibits set up around the plant area included displays covering first-aid, blindness, defensive driving, and automotive safety equipment.

At the beginning of the week prior to Car Check Day, WECO called a meeting of all employees and presented a skit promoting the check.

Check Day was held on a Sunday and from 1:00 p.m. to 5:00 p.m. the car check lane was set up in front of the plant. During this period 250 automobiles went through the lane and 15 discrepancies were found.

During the time of the check, a display of modern traffic safety equipment was on hand. The biggest item was a highway patrol helicopter.

The program did not end at the check lane. Car Check Day had been planned to come just prior to vacation time for most of the plant employees. A follow-up bulletin on vacation safety was sent to each employee. In addition, "Travel Safety Kits" were distributed to all employees.

Company officials believe the program demonstrated the interest of the company in the community and they report a definite improve-





CREATIVE RESEARCH • QUALITY PRODUCTS • PROFESSIONAL SERVICE



## ZORB-ALL takes the danger out of ice

Icy work surfaces can mean injured employees, damaged equipment and costly delays. But a thin layer of ZORB-ALL® will give you safe footing on loading and shipping docks, walks, platforms, ramps and driveways. And ZORB-ALL won't harm grass or concrete. It's an inert calcined clay—not a chemical. ■ So protect your plant from ice this winter. Call your Wyandotte representative or jobber today.

**Wyandotte Chemicals**  
J. B. FORD DIVISION

WYANDOTTE, MICHIGAN • LOS NIETOS, CALIFORNIA • ATLANTA, GEORGIA

CIRCLE 32 ON READER CARD



## NEW KIDDE TRI-CLASS-ABC UNITS APPROVED FOR A, B, C, FIRES!

U.L.-approved for use on all three classes of ordinary combustibles, flammable liquids, and electrical fires, new 10 and 20-pound Kidde dry chemical portables now simplify the job of fire-fighting, eliminate the possibility of error in matching the extinguisher to the fire hazard. Both make the job of training personnel easier, since they feature simple, two-step operation. Just aim, and pull the trigger... fire is smothered in seconds.

Tops in performance and quality, pressurized Kidde Tri-Class-ABC 10 and 20-pound portables release a powerful, non-turbulent dry chemical stream to insure dependable, fast-acting fire protection. Simple recharging means that once used, your units are quickly put back in service. In addition to full U.L. approval, both units are approved by Factory Mutual Laboratories. For more information on these easy-to-use portables, write to Kidde today!

# Kidde



Industrial and Marine Division

**Walter Kidde & Company, Inc. 1145 Main St., Belleville 9, N.J.**

Walter Kidde & Company of Canada Ltd., Montreal - Toronto - Vancouver

ment in public relations. They also reported an apparent increase in interest in safety both on and off the job.

### How to Plan for Traffic Safety

We recently received an excellent traffic safety publication by the Accident Prevention Dept., Association of Casualty and Surety Companies, 60 John St., New York City.

Entitled "Organizing an Off-the-Job Traffic Safety Program," it contains basic information that can be used by industry to develop such a program for their employees.

After outlining reasons for a program, the pamphlet provides a blueprint of basic principles:

1. Provide a solid administrative foundation for the program.
2. Organize and maintain a "continuous awareness" procedure.
3. Include a reasonably comprehensive course of instruction in safe driving techniques and allied subjects—carefully plan the numerous details involved in "staging" such a course.

If you are planning a traffic safety program, this publication can be of great help to you.

### Seat Belt Promotion Pays Dividend

Bethlehem Steel Co. has all company-owned cars and trucks equipped with seat belts and requires the belts to be used by all occupants of the vehicle.

One employee has already escaped serious injury by using the seat belts: a sales representative in Texas had been skeptical about seat belts, but he wore them. After the crash he wrote, "From this day on, I will never say anything bad about safety belts. I know it is very possible they saved my life."

### Let Us Hear about Your OTJ Programs

We hope to use this page to bring you information about various programs being developed throughout the country. In many cases we also try to give you ideas that can be used in your OTJ program.

Will you help us by sending information, pictures, and other materials on your own program?



**WHERE  
EVER**

## **THERE'S A CHANCE OF FLAME**

**Clothing treated with Du Pont "X-12" Flame Retardant gives employees protection with comfort**

Du Pont "X-12" gives you a modern, trouble-free way to protect work clothes against the spread of flame. ■ It's Effective. Garments treated with "X-12" Flame Retardant will not support combustion. They're self-extinguishing once the source of the fire is removed. ■ It's Renewable. Clothing is treated at your laundry each time it's washed. So your employees always get assured 100% protection.

■ It's Comfortable. "X-12" Flame Retardant doesn't clog the pores of the garment, allows it to "breathe". So comfort isn't sacrificed. No need for heavier clothes that cut employee efficiency. ■ A growing number of industrial and commercial laundries offer this low-cost treatment. For more details send the coupon at the right for the free booklet.



**X-12 FLAME  
RETARDANT**

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

\*Trademark

Du Pont Company  
2545 NSX Nemours Bldg., Wilmington 98, Del.  
Please send booklet describing the advantages  
of work clothing treated with "X-12".



NAME \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

CIRCLE 33 ON READER CARD

Modern Safety Personnel  
**DEMAND**Progressive Management  
**DEMANDS**

## *Scott* Respiratory Protective Equipment is the Answer

Today more than ever before, hazardous atmospheres present one of the greatest causes of accident frequency and severity. Technological advances in process industries create atmospheric unknowns that cause neurological and pathological damage.

Scott builds respiratory protective equipment to meet every type of breathing hazard. Whether the atmosphere is highly toxic, or not immediately injurious to health; whether the wearer must be protected for a short-duration maintenance job, or for a full day — there is Scott equipment to insure his breathing safety.

The Scott Aviation Corporation is a pioneer in, and one of the world's foremost producers of breathing equipment for aviation and industry. If you have accident problems that result from respiration of toxic atmospheres — let us give you the answers. Put your problem in the hands of experts.



211 ERIE STREET, LANCASTER, N. Y.

Export: Southern Oxygen Co., 3 West 57th St., New York 19, N.Y.  
Canada: Safety Supply Co., Toronto — Branches in Principal Cities

**SCOTT AVIATION CORPORATION • 211 Erie Street, Lancaster, N. Y.**

Please send me the following literature and prices:

- ☐ Scott Air-Pak Brochure, 6-pages, 2-color. ☐ Scott Respirator Brochure, 6-pages, 2-color.  
☐ Scott Inhalator Brochure, 6-pages, 2-color.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



Scott Air-Pak

Scott High-Pressure  
Hose Line Air-Pak

Scott Respirator



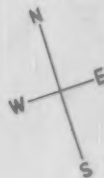
Scott Inhalator

## Around the Compass

Activities

Programs

Events

By **JAMES M. BASHAM**

Field Service Department, NSC

### Connecticut, Sioux Falls Win Trustees Awards

Connecticut and Sioux Falls, S. D., were the state and city named to win the Trustees Awards — the "Flame of Life" for 1960.

The awards were presented by Howard Pyle, president of the NSC at the Congress in October. The "Flame of Life," which was presented for the first time last year, is unique in that recognition is not limited to any particular phase of accident prevention. It is based on reports regularly submitted to the National Safety Council in all fields of accident prevention.

### Eastbay Prints Booklets On Belts, Alcohol

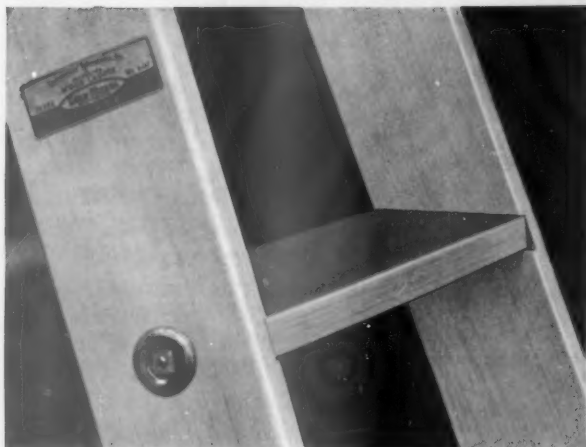
The Eastbay Chapter of the National Safety Council recently printed two interesting safety booklets. They are "Alcohol . . . its Relationship to the Human Body and to Driving," and "Project Life Line," which is about seat belts and their use.

Both are well done. You can obtain a copy of each by writing to Clint Dreyer, managing director, 1322 Webster St., Oakland 12, Calif.

### Litterbags Printed With Safety Message

The Safety Council of Western Massachusetts, in cooperation with police departments and Elks lodges of Western Massachusetts, has printed litterbags with a "back to school" theme. Prominently displayed is information on a new school bus law.

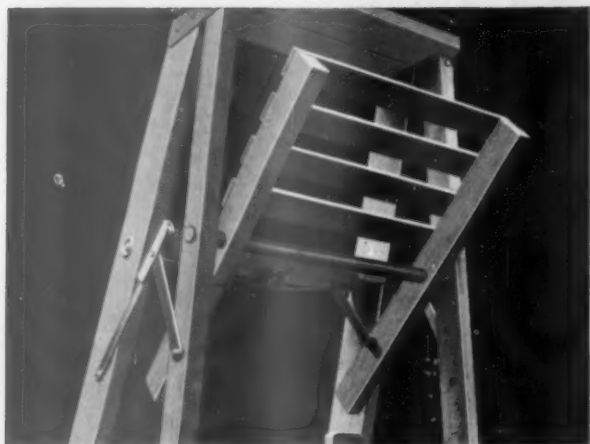




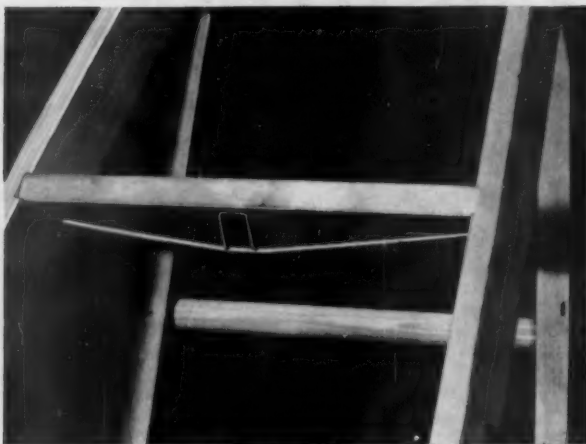
FLUSH STEPS



TWO-PIECE TOP AND WRAP-AROUND IRON



SELF-OPENING AND -CLOSING PAIL REST



GROOVED STEP FOR TIE ROD

## Only with Functional Designs . . .

do we produce the safer, longer-lasting industrial ladders you need

Based on recommendations from users and our own research, several important design improvements have been made recently in "Gold Medal" Ladders, making them more functional than ever.

Steps are now flush with the side rails of step ladders. This eliminates the protruding step and reduces the chance of breakage. Step ladders also have a new two-piece top, secured by strong wrap-around irons. Pail rests now swing into position as the ladders are opened, and automatically retract when the ladders are closed. Tie rods pass through a slot at each end of the steps, providing stronger, more rigid step ladders.

What does this mean to you, the ladder buyer and user? Just this: Ladders which incorporate *functional designs*, made from premium quality, carefully seasoned ladder stock, and fabricated under rigid inspection standards, provide dependable safety, longer life and lower cost in the long run.

"Gold Medal" Ladders equal or exceed code requirements of Underwriters' Laboratories, Inc. and American Standards Association. They are available in all types and sizes to meet the needs of industrial plants, institutions and contractors.

For complete details, write for Catalog L-97.  
Dept. NSN

Step up to Brand Name Quality . . .



**THE PATENT SCAFFOLDING CO., INC.**  
38-21 12th Street, Long Island City 1, N. Y. • 1550 Dayton Street, Chicago 22, Ill.  
Branches in All Principal Cities

CIRCLE 34 ON READER CARD

## Diary

— From page 16

the office, Lou expressed continuing anxiety. "Boss," he said, "I'm not minimizing the value of what we accomplished by alerting supervision and setting up a showing of that slide film. But, darn it, that's still a bad turn, and all we need to make serious trouble is for one trucker to get reckless. It seems to me that

what we need is a revision of the traffic flow, and perhaps some material handling equipment to get rid of the trucks. Now, if they would just . . ."

I interrupted him, saying, "Lou, in this business we have to make haste slowly. I can't go back to Martin and suggest a relocation of heavy equipment to change the aisle layout, and certainly not to tell him to make a heavy investment in conveyors. I agree that would be de-

sirable, but I can't prove it to him, and I can't show him how it would pay off. Especially since he hasn't had a single disabling injury involving trucks in his whole plant."

Back in the office, Lou rummaged in a desk drawer and came up with his Congress notebook. "Listen to this," he said. "This is what one panel member said: 'The time is upon us now when we must apply the lessons learned in machine guarding to the whole of industrial life. One of those lessons is that it is unrealistic to expect men to work in constant proximity to a hazard without producing an occasional lapse that leads to accident. Guarding today is not a matter only of shields on tools or barriers around flywheels and belts and gears. The great need today is for creative thinking by safety men to apply our whole body of accident prevention know-how to such fundamental matters as plant layout, material handling, and lighting. Too often we are content to give a plant first-aid when what it really needs is drastic surgery.'"

I'm afraid I didn't make a very intelligent reply to Lou. The fact is that the statement he was quoting sounds like statements I myself have made to top management men. It is perfectly true—but I've lived so long in the imperfect world of industry that I have become, too often perhaps, convinced that in most situations a safety man has to settle for something less than the drastic surgery a situation in a plant calls for.

However, I did my level best to make Lou feel that I appreciated what he had done in this case, and to reinforce my assurance on this, I told him I would write Martin a memo passing on Lou's evaluation of the situation and inviting him to call on us if and when he wanted to make revisions in his plant layout. Frankly, I didn't think the memo would do any good. I really wrote it to show Lou that he had my confidence and to encourage him to come up with similar evaluations of situations he might find anywhere in the Project.

However, that motive is now un-

# Like a STONE WALL

**SETLOW**  
UNION MADE  
®

**Special Purpose Work Clothes  
Stop Injuries**

**PERMANENT FLAMEPROOF**

**Work Clothes\***

**For Jobs Where Dangers Exist  
From Flame or Flash Point**



The durable flameproofing of Setlow's Comfortable FLAMEPROOF Work Clothes will not wash out. They reduce injuries caused by accidental burns. There is a minimum of after-glow, which in many burning accidents causes serious body burns.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

**CHEM-WEAR®**

**100% DYNEL  
Acid & Caustic-Resistant**

**Resist Acid Damage! End Static Hazards!**

Even the threads in CHEM-WEAR work clothes resist acid break-up! CHEM-WEAR clothes withstand more repeated launderings, longer rugged wear than work clothes of other fabrics. They retain their shape, too!

**Quality Since 1896**

**M. SETLOW & SON, INC.**

PLANTS: ORANGE, CONN. & PROSPERITY, S.C.  
Mailing Address: P.O. BOX 1784, NEW HAVEN, CONN.

\*Sanforized —  
Shrinkage  
less than 1%

CIRCLE 35 ON READER CARD

Safe from the toxic fumes of carbon tetrachloride. National's SS-25 is used in the windings of electric motors . . . leaves no residue . . . completely eliminates greases and oils. SS-25 has a dielectric constant of more than 25,000 volts . . . no flash at the boiling point. SS-25 is the safe answer for clean electric motors, components, etc. Classified as to fire hazard only by Underwriters Laboratory. Discuss your degreasing problems with a National Chemsearch representative. He's a well-trained specialist backed by one of the finest research staffs in the industry. Write for free informative folder.

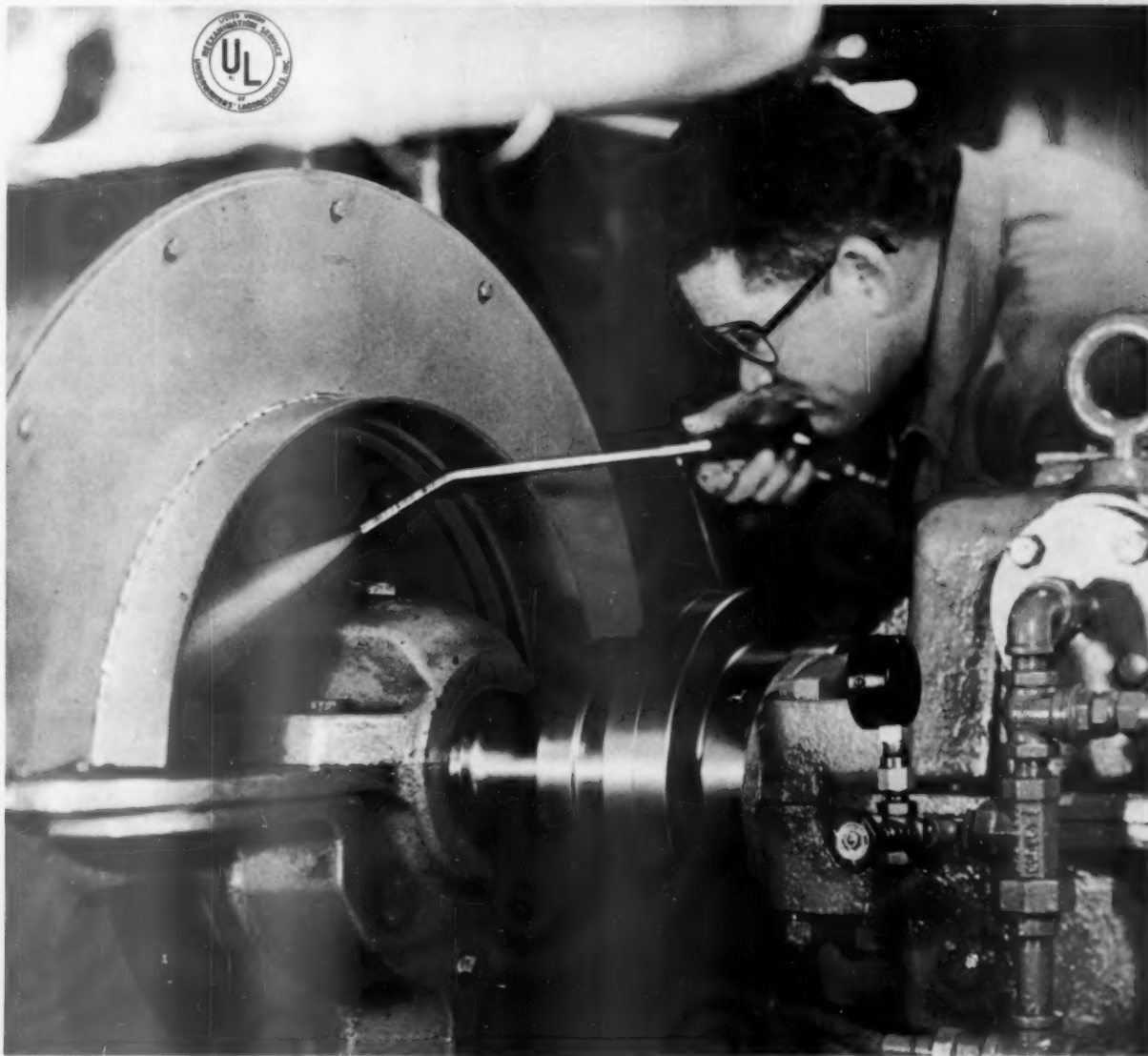
## SS-25® NEW-IMPROVED SAFETY SOLVENT



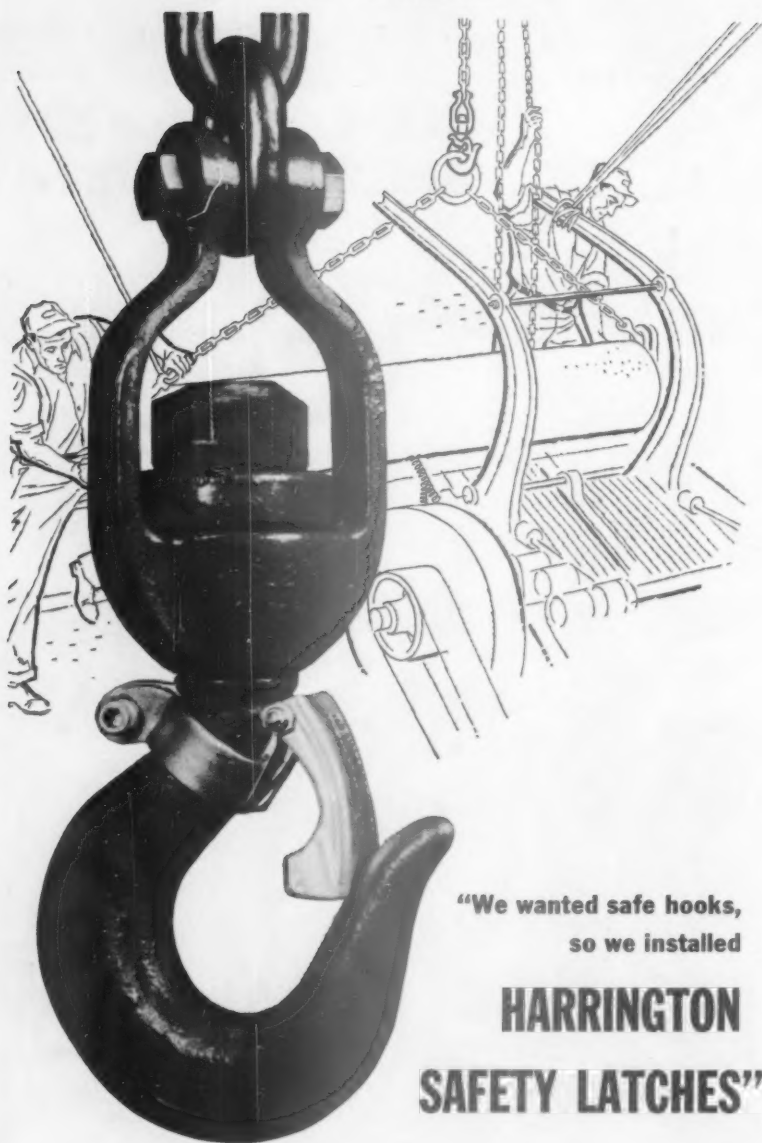
2417 Commerce Street, Dallas, Texas  
Offices in: Los Angeles • St. Louis • New York

SAFE FROM TOXIC FUMES! SAFE FROM FIRE!

CLASSIFIED AS TO FIRE HAZARD ONLY



CIRCLE 29 ON READER CARD



**"We wanted safe hooks,  
so we installed**

**HARRINGTON  
SAFETY LATCHES"**

More and more industrial plants are using Harrington safety latches to protect workers from dropped loads. And they are not spending a lot of money to do it. It takes only minutes to convert conventional hooks to safety hooks. It costs less to install a Harrington safety latch than the labor required to machine a safety hook.

13 standard sizes are available from distributors' stock. Special sizes can be made to order. Get detailed information from your nearest Harrington distributor. Or write us for a list of standard sizes and the hooks they will fit.

## THE HARRINGTON COMPANY

Plymouth Meeting 15, Pa.

Hand Chain Hoists (¼ to 60 tons) • Electric Hoists (170 to 4000 lb.)  
Trolley Hoists (¼ to 12 tons) • I-Beam Trolleys (¼ to 20 tons)  
Lever Pullers (¼ to 1½ tons)

important. As it turned out the memo was written at the best possible time. It arrived on Martin's desk two days ago. He had read it, scrawled "File" on the top of it, and gone on about his business. But yesterday morning, Martin called me and asked me to come down right away. On the chance that something might have happened on the corner situation, I took Lou with me. What Lou had been fearing had happened. There was a small oil slick on the turn, and a driver going just a bit too fast hit it as he was cramping the wheels for the tight turn. The heavy truck with its load of pump cylinders went into a skid that ended in a smash against an automatic screw machine. Fortunately, the trucker had jumped and had no injury beyond a skinned knee. And even more fortunately, a maintenance man oiling the machine had been on the far side of it and stooping over, so a heavy cylinder flew harmlessly over his head and struck a column.

Back in his office, Martin thanked us for our memo and ruefully admitted he hadn't intended to act on it. "That's water over the dam," he said. "When can you sit down with me, our home-office industrial engineer, and our master millwright? We'll get on this problem soonest and do the job right!"

And back in my own office, I told Lou, "I don't know whether you are lucky or just a genius. I kind of hope it's the former. But keep prodding me, son. I love it!"



"Just one day on the job without it."



*Get lasting protection from weeds and grasses this easy low-cost way*

with **UREABOR® 31**  
**YOU CAN WEED-PROOF**  
**10,000 SQUARE FEET**  
**IN TEN MINUTES...**



...it's the easiest way **to kill weeds and grasses**

**A SPECIAL SPREADER** simplifies and speeds the UREABOR 31 applications at low rates with accuracy. Spreader holds enough UREABOR 31 to treat 1250 sq. ft. without refilling; weighs a mere 6 lbs. Width of the swath can be adjusted.

**STANDARD PACKAGE IS 50 LBS.** UREABOR 31 is packed in multiwall paper sacks for easy handling—easy storing. A convenient package, easily disposable, for spotting at predetermined intervals to facilitate large-area applications.

**UREABOR 31 IS 3 HERBICIDES IN 1** The plant-destroying powers of 3 proven herbicides are combined in this granular mixture of sodium borates, substituted urea, and trichlorobenzoic acid to yield fast, long-lasting, nonselective results.

**UREABOR 31** is a special weed killer for industrial grounds. It lowers maintenance costs...protects property...and improves appearance.

**UREABOR 31** is effective on a greater variety of weeds and grasses than any other herbicide now on the market. A single dry application gives year-long control! Yet it takes only 1 to 2-lbs. per 100 sq. ft. to do the job! As a granular material, UREABOR 31 is always ready to use...and safe to handle. It's a big time saver too...any man can easily weed-proof ground at the rate of 1,000 square feet per minute.

*Write for literature now!*

**U.S. BORAX**

630 SHATTO PLACE, LOS ANGELES 5, CALIFORNIA

## Conference Table

— From page 22

chain had half its links stretched as much as 18 per cent. It was ready to snap any minute. We got rid of it."

"Now we inspect them every six months," he concluded.

Don't tell me the company didn't get its money's worth out of that safety conference.

And this was typical of the com-

ments of the plant safety representatives during discussion of the various topics, which included Hazards of Portable Welding, Occupational Diseases, Materials Handling, Keep Talking Safety, Standard Machine Practices, Present and Future, Eye Protection, Radiation, Fire Prevention Aspects of Safety, and Warehouse Accidents.

By noon of the first full day of conference sessions I was impressed with the dedication of these men—they want to keep their plants safe

for the sake of their fellow employees in the shops and offices.

At the luncheon a short, but worthwhile, film on eye protection was shown. The viewer not only saw the usual safety glasses on display, but in this film he was taken right into the operating room of a hospital to watch the doctor cut open the eye of an injured employee — while the man was still conscious. You couldn't help putting yourself in his place.

"Dudley," said one of the safety conferees to the director of the meetings, "It's good of you to show this film to us; but the real value is in showing it to every man in the factories."

"I'll guarantee that if you can get me a copy of that picture, every man in our plant will see it."

The safety man from Auburn, N. Y. said he'd do the same in his plant.

"OK, I'll order a copy and see that you get it," the conference director replied.

The first afternoon of the conference was given over to a tour of the plant in the host city. Each safety man had a chance to see what was being done to keep down industrial accidents, and the visitors offered suggestions from a fresh viewpoint—some of which could prove to be extremely valuable.

My skepticism was gone; and the conference was only half over.

That evening the safety conferees and the foremen of the local plant met to talk over industrial safety at a dinner at the country club. There was a speaker who dealt with a particular phase of plant safety, and there was a movie, but the program was kept short and to the point.

Tuesday morning the discussion topics of the safety gathering continued, with a final wrap-up and review before the closing noon luncheon.

The competence of the conference director was vital to the success of the meeting, and I salute H. Dudley Bierau, director of compensation and safety for Alco Products, Inc., for steering a safe, steady course of accident prevention discussions.

As an interested outsider, I can attest that the company got its money's worth, although an accountant probably never will be able to measure it.



A Detex  
Guardzman  
Watchclock System...

**KEEPS  
YOUR  
GUARD  
UP!**

**Tonight**—when he is alone in your plant—will your guard be awake to the dangers of fire, theft, and vandalism? Insure the minute-by-minute protection you need and pay for. Supervise your security patrolman with a Detex Guardzman Watchclock System. The Guardzman's extra tape capacity assures positive supervision, even over long weekends. Supervisor need not return to the plant on Saturday or Sunday. Send for information today.

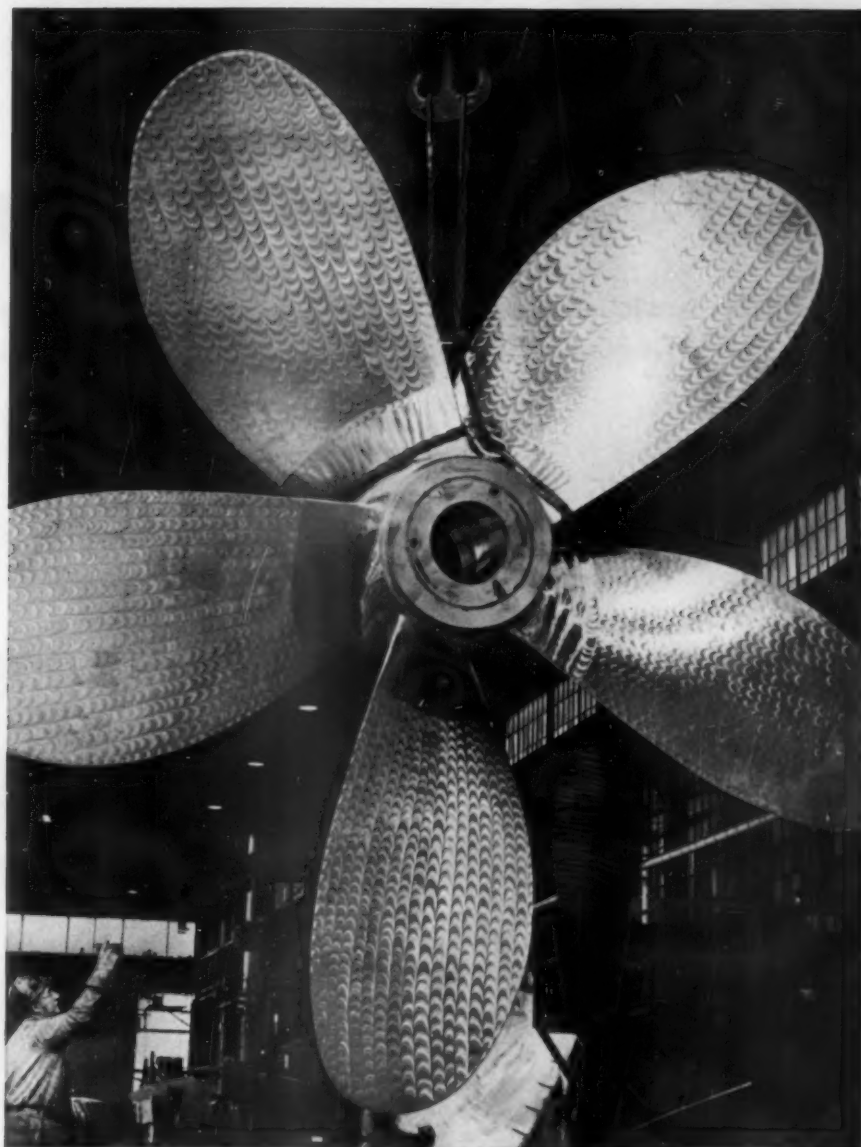
Find Your Nearest  
DETEX Inspector  
In The  
Yellow Pages

**DETEX**  
WATCHCLOCK CORPORATION  
Dept. N-11, 76 Varick Street  
New York 13, New York

**WRITE  
TODAY**  
on your letterhead  
for FREE Detex  
Property Protection  
Manual.

CIRCLE 38 ON READER CARD

# BIG Wheel



*easy to handle with Bethlehem braided slings*

This propeller is 22-ft across, 4-ft thick at the hub, and weighs 62,500 pounds. It's one of two screws which will propel the largest merchant ship ever built in the United States—a 106,500 dwt tanker with a capacity of 38,242,000 gallons.

Easily handling the big wheel are two Bethlehem 8-part braided flat-body slings, each 18-ft long. The wire rope used to braid the slings is  $\frac{3}{8}$ -in. diam Purple Strand. Flat-body types, in this case 4-in. wide by  $1\frac{1}{4}$ -in. thick, have wider load-bearing surfaces than standard slings. They are well-balanced, too, extremely flexible, safe, and highly resistant to kinking. In the larger sizes especially, they are much easier to handle.

Bethlehem makes a wire rope sling for every job—in single- and multi-part constructions, and with a complete line of end fittings. The nearest Bethlehem sales office will gladly help you select the right sling for your lifting job.



for Strength  
... Economy  
... Versatility

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA. Export Sales: Bethlehem Steel Export Corporation

## BETHLEHEM STEEL



CIRCLE 39 ON READER CARD

# THE VITAL 4 MINUTES

**When life-sustaining oxygen is indicated in illness or injury, the first four minutes are of vital importance.**

Oxygen should be administered immediately when symptoms indicate asphyxia or shock, two of the three leading causes of accidental death. Serious complications can be avoided—a life may be saved—if emergency medical oxygen is readily at hand.

The safety and dependability of *Metrox* places it unexcelled in the field of portable oxygen equipment. In your selection of equipment to meet the many medical emergencies that respond to oxygen there can be no compromise with quality.

Completely portable, *Metrox* oxygen units may be conveniently bracket-mounted at your first aid stations.



Each *Metrox* unit is unconditionally guaranteed against any mechanical defects for one full year.

Gentlemen: I am interested in learning more about Metrox Portable oxygen equipment.

- ☐ Please have a representative call.  
☐ Please send more information.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

**METROX**  
portable  
medical  
oxygen

Manufactured by: METROX, INC., 4335 Governor Printz Blvd., Wilmington 2, Delaware

Distributed by: National Cylinder Gas, division of Chemetron Corp., 840 N. Michigan Ave., Chicago 11, Illinois

CIRCLE 40 ON READER CARD



# The Safety Library

Books, pamphlets and periodical articles of interest to safety men

By LOIS ZEARING,  
Librarian, NSC

## BOOKS AND PAMPHLETS

### Atomic Energy

*Reactor Safety: A Literature Search.* Compiled by Richard J. Smith. 76 pp. Washington, D. C., July, 1961: Technical Services, U. S. Dept. of Commerce (TID-3525 (Rev 3)). \$1.75.

*SL-1 Accident.* Atomic Energy Commission. 173 pp. Washington, D. C., 1961: Supt. of Documents. (Accident at the Reactor, National Reactor Testing Station in Idaho) 55¢.

### Chemicals

*Handbook of Chemistry.* Tenth Edition, edited by Norbert A. Lange. 1,969 pp. New York, 1961: McGraw-Hill Book Co., 330 W. 42nd St. \$11.

### Color

*Color Coding of Wires and Cables* by National Electrical Manufacturers Association. 11 pp., New York, 1961: NEMA, 155 E. 44th St. (Pub. No. WC30-1961) 35¢.

*Colors for Identification of Arc-Welding Electrodes* by National Electrical Manufacturers Association. New York, 1961: NEMA, 155 E. 44th St. (Pub. No. EW4-1961)

### Fire Protection

*Approved Equipment for Industrial Fire Protection, 1961-1962* by Factory Mutual, Engineering Div. 156 pp. Norwood, Mass., 1961: 1151 Boston-Providence Turnpike. \$3.

### Machine Guarding

*Prohibition of the Sale, Hire, and Use of Inadequately Guarded Ma-*



**K-LENS-M**  
BETTER VISION PRODUCTS

**BIGGEST VALUE in the LENS CLEANING FIELD**  
Keep Safety in Sight with the Modern Liquid Method

FREE Sample — Request 30-day Trial Offer

**THE WILKINS CO.**  
Incorporated  
Cortland 1, N.Y.

Lens Cleaning Cabinets • Lens Cleaner • Lens Tissue • Anti-Fogging Stations • Anti-Fogging Liquid  
Copyright, The Wilkins Co., Inc. 1961

**SAFETY SIGNS** OF EVERY CONCEIVABLE TYPE FOR INDUSTRY, FACTORY, HIGHWAY, STREET.



**PRAIRIE STATE PRODUCTS CO.** 3822 LAWRENCE AVE. CHICAGO 25, ILL.

chinery. International Labour Office. 38 pp. Washington, D.C., 1961: ILO, 917 15th St., N. W. (Report VI—International Labour Conference) 40¢.

#### Mines

*Determining the In-Place Support of Mine Roof with Rock Bolts, White Pine Copper Mine, Michigan.* 28 pp. Pittsburgh, 1961: Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St. (Report of Investigation 5746) Free.

*Factors Influencing the Incendivity of Permissible Explosives: Ammonium*

*Nitrate and Carbonaceous Material.* 11 pp. Pittsburgh, 1961: Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St. (Report of Investigation 5867) Free.

*Thirty-seventh Proceedings of Lake Superior Mines Safety Council.* 102 pp. Duluth, Minn., 1961: Lake Superior Mines Safety Council, c/o Secretary, 321 Federal Bldg.

*Practical Aspects of Controlling an Underground Fire on a Mining Machine.* 29 pp. Pittsburgh, 1961: Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St. (Report of Investigation 5846) Free.

#### Petroleum Industry

*Installation of Underground Gasoline Tanks and Piping at Service Stations.* 10 pp. New York, 1961: American Petroleum Institute, 1271 Avenue of the Americas. (API Bulletin No. 1615)

#### Responsibility

"Management's Responsibility for Safety" by Hall M. Henry. In the *American Gas Association Proceedings, 1960.* pp. 152-155. New York: American Gas Association, 420 Lexington Ave.

#### MAGAZINE ARTICLES

##### Aged

"Problems of the Aging Worker: As Viewed by the Disability Examiner" by Louis J. Steiner. *Industrial Medicine and Surgery.* August 1961. pp. 316-319.

"Problems of the Aging Worker: As Viewed by the Industrial Engineer" by L. J. Langton. *Industrial Medicine and Surgery.* August 1961. pp. 313-315.

"Problems of the Aging Worker: As Viewed by the Private Physician" by A. Hazen Price. *Industrial Medicine and Surgery.* August 1961. pp. 310-312.

##### Atomic Energy

"Accidents in Nuclear Energy Operations". *Nuclear Safety.* June 1961. pp. 55-63.

"Radiation Hazard—A New Police Problem" by George Ward. *Law & Order.* May 1961. p. 6-8.

##### Construction

"Job Safety Must be Preplanned" by James R. Cummings. *Roads and Streets.* August 1961. pp. 75-77.

##### Electrical Utilities

"An Analysis of Fatal Accidents in the Electric Light and Power Industry in 1960" by W. C. Bremmer. *Edison Electric Institute Bulletin.* July-August 1961. pp. 275-279, 292.

"Training Aerial Basket Crews is a Must" by G. A. Newsom. *Electrical World.* Aug. 28, 1961. pp. 96-97.

##### Elevators

"Elevator Accidents and Elevator Service Company Liability" by John A. Miller. *Elevator World.* September 1961. pp. 4445.

##### Fire Protection

"Beware Electrical Hazards" by James M. Callaway. *Fire Engineering.* September 1961. pp. 764-765, 881, 883.

"Fatal Reactor Accident Proves Value of Training" by R. J. Beers &

Send today for your **FREE\***  
**"OFF-THE-JOB SAFETY  
 BELT EDUCATIONAL  
 PLAN"**

**Keep Your  
 Employees ...  
 and Keep  
 Them Safe!**

**"THE SAFEST THING AROUND YOU"**

THE  
**Beam's**  
**SEATBELT**

\*offered free by Beam's Manufacturing Company,  
 1327 N. Robinson, Oklahoma City, Oklahoma

**The Beam's Plan is a proven program  
 for "off-the-job" employee safety  
 SEATBELTS DO SAVE LIVES—GET 'EM, USE 'EM**

CALL COLLECT  
 PE 2-2275

**Beam's**

13th & North Robinson  
 Oklahoma City  
 Oklahoma

BEAM'S Manufacturing Co.  
 1327 N. Robinson  
 Oklahoma City, Oklahoma

Yes! I am interested in  
 your Beam's Plan for  
 off-the-job safety for my  
 employees. Send your  
 free Safety Belt Educa-  
 tional Program to:



NAME \_\_\_\_\_  
 TITLE \_\_\_\_\_  
 # EMPLOYEES \_\_\_\_\_ # POSTER AREAS \_\_\_\_\_  
 COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

NS-11

CIRCLE 92 ON READER CARD

# Now! Ice-Pak any injury in just 2 seconds!

**Remarkable new discovery!**  
**NEW KWIK-KOLD INSTANT ICE-PAK.**

**Gives instant cold that lasts up to ½ hour! For sprains, swelling, bruises and minor bleeding. Helps minimize injury, speed recovery.**

**Doctors know** that prompt application of cold is one of the most important first aid treatments for injury. And *how fast* cold is applied can often make the difference between days, and even weeks, of recuperation.

Now a new scientific discovery called KWIK-KOLD makes it possible for anyone—anywhere—to get the medical benefits of cold in a hurry!

**New KWIK-KOLD** Instant Ice-Pak gives you *instant cold* for any injury. Relieves pain on the spot—reduces swelling and minor bleeding. Much faster and handier to use than old-fashioned ice bags and, unlike ice, is always available, is not messy, is easy to carry on trips.

**Quick and easy** to apply. Just squeeze the plastic bag and—in just 2 seconds—you get instant cold that *stays cold* up to half an hour! The tough yet flexible plastic bag conforms readily to body contours. Non-toxic and safe, even if the bag is punctured. Keeps for extended periods of time.

Kwik-Kold provides ready relief for athletic injuries. Used by the 1960 U.S. Olympic Team, Kwik-Kold should be standard equipment for all football, basketball, and baseball teams as well as other athletic groups. For all sports injuries—sprains, black eyes, cuts and bruises—Kwik-Kold is handy and effective, indoors, outdoors, in all seasons.

**New KWIK-KOLD** belongs in the first aid kit of everyone who has to deal with sudden injuries. Get Kwik-Kold from your local first aid equipment supplier or write International Latex Corporation, 350 Fifth Avenue, New York 1, N. Y.



Kwik-Kold can be stored at any temperature, always ready for immediate use. Tough yet flexible plastic bag contains dry Cold-Crystals and an inner pouch of special fluid. When you squeeze bag, fluid is released to activate crystals and give *instant cold*. Apply as you would an ice pack. Bag measures 6" x 9", conforms smoothly to body contours, is not lumpy, messy, or drippy. Dispose of bag after use.

## **How Cold Works in the Treatment of Injuries:**

Cold is medically recognized for its value in the treatment of various injuries. In *minor bleeding*, cold has an astringent action on tissues and constricts capillaries, thus acts to reduce blood flow at the site of the wound. By reducing effusion of blood to wound, cold helps reduce *swelling, inflammation, and discoloration* in bruises and sprains. The local anesthetic effect of cold helps *relieve pain*. And because it restricts blood flow to and from the wound, cold slows spread of venom in treating *insect and snake bites*.

## **How To Use Cold in Emergency First Aid:**

**Sprains.** Elevate injured part to a comfortable position. *Apply cold packs* to sprain to ease swelling and relieve pain.

**Bruises, Black Eyes.** Apply cold pack promptly to bruise for 20 to 25 minutes. Cold inhibits flow of blood to wound, helps limit discoloration, reduce swelling and pain.

**Bleeding.** In bleeding from the nose, the head should be kept erect, as lowering the head tends to encourage continued flow of blood. *Apply cold* to the nose, and if the bleeding is from near the tip of nose, pinch the nostrils together for a few minutes. In bleeding from cuts and abrasions, keep the area raised and *apply cold* in conjunction with other prescribed treatment.

**Insect & Snake Bite:** For *bee, wasp and hornet stings*, remove stinger with sterilized needle or knife point. *Apply cold* to sting to relieve pain and slow absorption of venom. Apply calamine lotion to relieve itching. For *ant, chigger and mosquito bites*, wash affected parts with soap and water, then apply paste of baking soda. *Apply cold* to reduce swelling. For *snake bite*, follow prescribed first aid procedure, *using cold* application on wound to relieve pain and help limit spread of venom.

**Sunstroke.** For mild sunstroke (marked by headache, fatigue, dizziness and, perhaps, fainting), cool patient off quickly. *Apply cold packs* to head to help lower body temperature.

**Minor Burns.** Follow recommended first aid procedures to exclude air from burned area and prevent contamination. *Apply cold packs* to relieve pain.

**Other Uses.** Cold packs may be considered for use in conjunction with other appropriate first aid measures in treating minor head injuries, suspected appendicitis, headache and fever, toothache, and fainting.



## Now is the time for all good men... to listen to the voice of patriotism!

Many companies have the Treasury Payroll Saving Plan. Some don't promote it enough! They don't realize how the plan works for our country . . . and for them.

For example, it strengthens local buying power. It provides a hard-to-beat employee benefit program. It acts as an economic insurance policy. Fill in the coupon and get easy-to-use promotion ideas that work!

### U.S. SAVINGS BONDS



The U.S. Government does not pay for this advertisement. The Treasury Department thanks, for their patriotism, The Advertising Council and this magazine.

Treasury Department  
U.S. Savings Bonds Division  
Washington 25, D.C.

We would like to promote the Payroll Savings Plan  
among our employees. Please send us your proven program.

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

☐ We have the plan. Please send us  
\_\_\_\_\_ employee leaflets.

☐ We don't have the plan yet.  
Please send complete facts today!

**It's simple! It's successful! It works!**



E. G. Dingman. *Fire Engineering*. August 1961. pp. 606-607, 647.

#### Gas Industry

"Accident Frequencies Down for 13th Straight Year." *American Gas Association Monthly*. September 1961. p. 16.

#### Health

"Employee Health is Your Business" by Donald H. Robinson. *Supervisory Management*. September 1961. pp. 14-16.

"Management Health Examination Program in General Motors" by S. D. Steiner. *Journal of Occupational Medicine*. September 1961. pp. 424-435.

"The Periodic Health Examination" by Kendall A. Elsom. *Archives of Environmental Health*. August 1961. pp. 217-223.

"The Relationship of Physical Health to the Incidence of Accidents" by Bruce D. Waxman, Patricia C. Campbell and Roland R. Bonato. *The Journal of Trauma*. September 1961. pp. 536-546.

#### Health Hazards

"Bovine Tuberculosis As An Occupational Risk" by E. W. Baader. *Industrial Medicine and Surgery*. August 1961. pp. 334-336.

"Smoking in Relation to Physical Complaints" by E. Cuyler Hammond. *Archives of Environmental Health*. August 1961. pp. 46-164.

#### Health Hazards

"Study of Q Fever in Animals and Man in Pennsylvania" by Robert R. Marshak et al. *American Journal of Public Health*. August 1961. pp. 1189-1198.

"Toxicology of Selenium and Tellurium and Their Compounds" by Edward A. Cerevenka Jr. *Archives of Environmental Health*. August 1961. pp. 71-200.

#### Lighting

"Get More Light on that Production and Accident Problem" by Robert N. Edwards Jr. *Plant Management and Engineering*. September 1961. pp. 38-41.

#### Noise

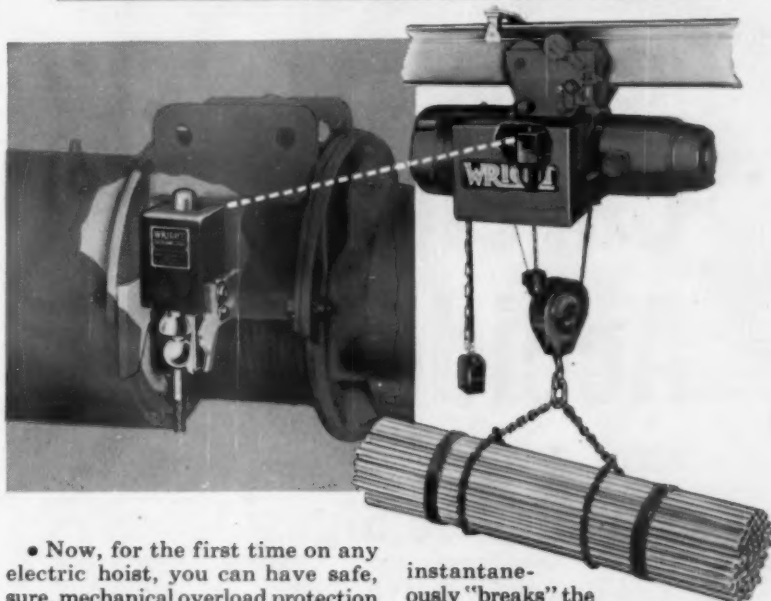
"Correlation of Industrial Noise Exposures with Audiometric Finding" by E. J. Schneider et al. *Industrial Hygiene Journal*. August 1961. pp. 245-262.

#### Organization

"A Scientific Safety Program" by V. A. Howell. *American Gas Association*.

# New from Wright!

## Built-In Overload Protection for Operator, Load and Hoist with the New Wright Overload Cutoff\*!



• Now, for the first time on any electric hoist, you can have safe, sure, mechanical overload protection as a built-in feature with the **WRIGHT Overload Cutoff**. Designed and built to fit any new Wright Speedway Electric Hoist, the Overload Cutoff unit you see pictured above is a compact, integral part of the hoist frame itself. As a result, it becomes a functional part of the hoist at no sacrifice in headroom. The **WRIGHT Overload Cutoff** is simple in design and should give dependable, trouble-free operation during the entire life of the hoist under normal operating conditions. Calibrated and sealed at the factory for the user's protection, the unit takes rugged abuse up to the critical point of overload—then

instantaneously "breaks" the raising circuit of the hoist. This allows the load to be safely lowered to the floor and unhooked. Once this is done, the raising circuit of the hoist is again automatically restored. The **Wright Overload Cutoff** is available now as standard equipment on all new **WRIGHT** Frame 2 and 3 Speedway Electric Hoists, and as optional equipment on new Frame 1 and 1½ models.

Find out how **WRIGHT** Speedway Hoists equipped with **Overload Cutoff** can bring practical, fast-acting overload protection to your material handling operations. For complete information, write our York, Pa., office.

\*Patent applied for

**ACCO**



See your **WRIGHT** Distributor  
about the **Speedway Electric Hoist** line  
or write us for literature

# WRIGHT HOISTS

Wright Hoist Division • American Chain & Cable Company, Inc.

York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.



# Help cut Careless Accidents with Stonehouse Signs

To promote orderly work and help cut down costly accidents through carelessness, include **STONEHOUSE EFFICIENCY SIGNS** in your safety program.

All Stonehouse Signs are designed and manufactured to accomplish this purpose in the most effective manner. They are of the highest quality workmanship and materials and comply fully with American Standard Specifications.

Hundreds of different stock-worded accident-prevention signs are available for prompt shipment. Usually the same day your order is received.

**THINK**  
CARELESS MEN  
NEVER  
ARE EFFICIENT

THE BEST  
SAFETY DEVICE  
— IS A —  
CAREFUL  
WORKER

**SAFETY**  
FIRST  
— WATCH —  
YOUR STEP

Write today for our free, full-color, 64-page catalog, plus information about custom-printed signs to meet your specifications.

Signs  
Since  
1863

**Stonehouse**  
SIGNS

STONEHOUSE SIGNS, INC., 9th and Larimer Streets, Denver 4, Colorado

tion Monthly. September 1961. pp. 31-32, 35.

#### Railroads

"13 Roads Get Harriman Awards." *Railway Age*. Sept. 18, 1961. p. 17.

#### Tankers

"Design Aspects of Methane Pioneer" by E. M. Schlumberger & J. W. Hunt. *Marine Engineering/Log*. August 1961. pp. 61-72, 70.

"Handling of Refrigerated LPG Cargoes." by H. L. Lorentzen et al. *Marine Engineering/Log*. August 1961. pp. 56-59, 70.

#### Tanks

"Safe Tank Entry." *Industrial and Engineering Chemistry*. September 1961. pp. 69A-71A.

#### ADDRESSES OF MAGAZINES LISTED

American Gas Association Monthly, 420 Lexington Ave., New York 17.

American Journal of Nursing, 10 Columbus Circle, New York 19.

American Journal of Public Health, 1790 Broadway, New York 19.

Archives of Environmental Health, 535 N. Dearborn St., Chicago 10.

Edison Electric Institute Bulletin, 420 Lexington Ave., New York, N. Y.

Electrical World, 520 N. Michigan Ave., Chicago 11.

Elevator World, P. O. Box 1641, Mobile, Ala.

Fire Engineering, Case-Sheppard-Mann Dept., 466 Lexington Ave., New York 17.

Industrial and Engineering Chemistry, 1155 Sixteenth St., N. W., Washington 6, D. C.

Industrial Hygiene Journal, 1014 Broadway, Cincinnati 2, Ohio.

Industrial Medicine and Surgery, P. O. Box 44-306, Miami 44, Fla.

Journal of Occupational Medicine, 28 E. Jackson Blvd., Chicago 4.

Journal of Trauma, 428 E. Preston St., Baltimore 2, Md.

Law & Order, 72 West 45th St., New York 36.

Marine Engineering/Log., Emmett St., Bristol, Conn.

Mechanical Contractor, Suite 570, 425 Rockefeller Plaza, New York 20.

Nuclear Safety, U. S. Atomic Energy Commission, Washington 25, D. C.

Plant Management and Engineering, Wheaton, Ill.

Railway Age, Simmons Boardman Co., Orange, Conn.

Roads and Streets, 22 West Maple St., Chicago 10.

Supervisory Management, 1515 Broadway, New York 36.

Is usual protection  
enough for men working  
on this unusual building?



"There isn't another building in the world like this Assembly Hall," says Mr. Dickerson. "That goes for the concept, the construction and the many varied functions it will serve so adequately." Construction like this requires almost constant checking of plans like that being done here by Joe Huntman, Employers Mutuals Construction Specialist, with Richard Foley and Edward Maliskas, key men in the Felmley-Dickerson Company.



The roof is a saucer with a 400 foot diameter... an unusual pattern of ridges and valleys that will arch 128 feet above the center arena without any interior supports.



The Assembly Hall will be used for many events the University could not accommodate before. It will be paid for by student fees and income from rentals. Completion date is scheduled for fall, 1962.

# Wausau Story

AT THE CONSTRUCTION SITE OF THE NEW  
ASSEMBLY HALL, UNIVERSITY OF ILLINOIS,  
URBANA CAMPUS



by RAY C. DICKERSON

President of the  
construction company,  
Felmley-Dickerson,  
Bloomington and Urbana, Ill.

"Employers Mutuals have been working with us for 25 years, and never once have I seen them satisfied with usual protection for our men on any job.

"On a job as different as this Assembly Hall, Employers Mutuals Men don't rely on routine rule-book safety alone. In addition to the usual safety inspections, they help us plan and build safety into every part of the job, every step of the way.

"We planned excavation and concrete placement to reduce the heights at which our men work. The completed ten million pound reinforced concrete roof will have no interior supports, but during construction we work out from a hundred foot tower in the center of the arena. That temporary tower is built so strong it could last forever. And for safety's sake, we also made the wood scaffolds much stronger than they need to be. We put two extra joists in each segment of the roof for catwalks that replace ladders.

"This is unusual protection, typical of the safety we need and Employers Mutuals' way of seeing we get it. They're 'good people to do business with'."

★ ★ ★

Employers Mutuals of Wausau has 138 offices throughout the country to provide the "unusual service" Mr. Dickerson speaks of. We write all forms of fire, group health and accident, and casualty insurance (including automobile). We are one of the largest and most experienced underwriters in the field of workmen's compensation. Consult your telephone directory for your nearest Employers Mutuals representative or write us in Wausau, Wisconsin.



FOR 50 YEARS

"Good people to do  
business with"

## Employers Mutuals of Wausau

PIONEER UNDERWRITER OF WORKMEN'S COMPENSATION INSURANCE IN AMERICA

CIRCLE 45 ON READER CARD



## NOW IN USE AT ROCKET AND MISSILE BASES!

### North PVC Clothing for

- Missile Loading • LOX and Liquid Nitrogen
- Hazardous Chemicals

Jomac offers a complete line of washable clothing made from several types of PVC coated materials. Coveralls have standard or pressure sealing zipper, are of one-piece construction. Jackets have front or side zipper, offer complete freedom of movement. Pants are of full-cut bib or waist style. Hoods are fitted with replaceable wide-angle vision face plate. Garments are fabricated by sewing and electronic welding. No exposed seams.

North PVC coated gloves have been approved for rocket and missile loading.



Standard sizes and styles . . . or custom-made to specifications. Write for a copy of our new catalog. And if you have a special problem, let us know what it is.



CO 4-910. Air-impregnable coverall, self-contained pouch for air pack. Gloves replaceable.



CO 4-205. Coverall with an H 4-517 hood. Gloves are replaceable.



CO 1-013. Coverall with an H 1-516 hood. Gloves are replaceable.

# JOMAC

Jomac Inc., Philadelphia 38, Pa.  
In Canada: James North Company, Ltd., Simcoe, Ont.

"JOMAC Sells Quality . . . and Quality Sells JOMAC!"

## Welding Accidents

— From page 29

hands and was able to return to his work after a few hours' rest.

Inspection of the machine revealed that a 370V ac potential existed between the housing of the welder and the ground clamp. It was also found that one of the movable ac motor contacts had dropped back beyond its normal open limit and touched the dc rheostat. Further inspection disclosed that the metal screw which limits the contactors position had broken. This failure permitted the motor contactor rack to drop beyond its normal position. Because of the physical location of the dc rheostat in this particular model, one contactor came to rest against the coil, causing the entire welding unit to become "hot."

The manufacturers of this equipment were contacted and consultation with their technical representative resulted in the plant modifying this equipment by placing a positive, non-conductive, limit bar across the rear of the vertical arc shield. This new limit bar will restrict the three motor contactors from dropping out of their normal position. Further protection may be obtained by re-wiring the ac supply to the stationary contacts.

## Running Fan Ignored

A welder trainee had set up arc welding equipment, preparing to repair a metal discharge chute. He started the welder and heard a noise coming from the fan area. Taking a closer look, he detected broken housing slots protruding into and contacting the fan blades.

Without shutting off the power, he struck the housing in the area of the fan, with the palm of his right hand. This he did, with the intent of causing the housing to "pop" back out allowing sufficient clearance to eliminate the noise. However, previous damage to the housing air slots, which also acted as a fan guard, left an opening 2½ in. by 4 in. As he struck the housing, his right index finger extended into this opening and contacted the rotating fan blades, resulting in a major portion of his finger being amputated. Clearly, repairs of machines with moving parts should never be undertaken without locking off all power supply.





## LIFESAVER

Tragedy works a 24-hour day. It likes to stalk and strike on silent streets. \* This telephone is one of its biggest foes. A part of the Bell System's Municipal Emergency Reporting System, this special phone is found on the streets of many American cities. \* Lift the receiver and you're immediately connected with help. The proper aid can be sent right away. \* Tragedy can be forestalled.

**BELL TELEPHONE SYSTEM**



# WALKING SAFETY

scores a

# "Shut-out"

with NORTON  
**NON-SLIP**  
**ABRASIVES**  
**IN RESIN**



## ... the score is 52-0 at Boston

Truckmen averaged an accident a week on this steeply inclined ramp at a Boston hotel service entrance before it was re-surfaced, a year ago, with Norton Non-slip Abrasive in resin. Since then not a single accident has been reported — a 52-week record for walking safety that's hard to beat!

Dangerous steps, ramps and floor areas of wood, concrete or metal (new or old) can now be made non-slip, easily and economically, with Norton Non-slip Abrasives in resin. The resulting surface is highly non-slip, wet or dry, and extremely durable. It is waterproof and resistant to acids and alkalis.

The Norton Non-slip Abrasive can be either ALUNDUM® (aluminum oxide) grain or CRYSTOLON® (silicon carbide) grain — depending on preference and the type of job.

Write for catalog 1935-O on Norton Non-slip Abrasives and ALUNDUM Aggregate for terrazzo and cement floors.

† Names and more detailed installation instructions on request.

# NORTON

NON-SLIP FLOORS

NORTON COMPANY  
WORCESTER 6, MASS.

ALUNDUM AGGREGATE for Terrazzo and Cement • ALUNDUM STAIR and FLOOR TILE  
ALUNDUM and CRYSTOLON Non-slip Abrasives



Step 1. Clean surface thoroughly. Resin won't bond to poorly prepared surfaces.

Step 2. Brush or roll an even coat of one of the new resins.†

Step 3. Sprinkle on surface a uniform layer of the correct size of Norton Non-slip Abrasive.



Step 4. Remove surplus abrasive and apply second, locking coat of resin.

## CCTV

— From page 23

dium. "CCTV multiplies the teaching ability of an exceptionally well-qualified instructor, and it exposes his ability to the greatest possible number of students.

"This use of TV permits big close-ups and enlargements of small pieces of equipment, and it emphasizes details more effectively than possible in a conventional class where the front rank gets the benefit of instruction and the fellows in the rear have to stand on their toes to see and hear what's going on."

Downey and Pico-Rivera workers achieved high grades in an exam given at the conclusion of the course, but this doesn't mean CCTV has no blemishes. Lack of personal contact between live, inspired instructors and their students hampered useful spontaneity. It was also felt that improvements in inter-communication networks would increase rapport during question-and-answer sessions among students and instructors.

The company's management considers experimentation with CCTV has proved its worth to them as a dynamic safety and production tool. CCTV in this firm has dramatically influenced employees to produce in higher quantities and with better quality in a safer working environment.



"So that's how he manages to sell so many accident policies."

## Council Offers Christmas Safety Kit

Each Christmas, tragedy enters the lives of hundreds of families because of a driver's mistake.

To cut down the staggering holiday toll, the National Safety Council's National Committee of Religious Leaders for Safety is sponsoring its third annual Christmas Holiday Safety Campaign, December 1, 1961, to January 2, 1962. Theme of the program is "Keep Christmas in Your Driving."

The program emphasizes the individual's moral responsibility to be a good driver and the incongruity of a careless driver in a season dedicated to good will and brotherly love.

A holiday study has shown that 55 per cent of fatal traffic accidents during the Christmas season involve a drinking driver. Consequently, religious and civic leaders have joined in an effort to dry up the office party and keep the drinking driver off the road.

Eight thousand Christmas Holiday Safety Campaign kits have been readied for nationwide distribution. These kits contain 18 items for a comprehensive holiday program, including a step-by-step campaign plan, posters, cartoons, articles, and news releases. Articles on safe toys and safe trees are also included in the kit to help cut down accidents in the home.

Christmas kits will be mailed to safety councils, religious leaders, governors, and officials of major cities throughout the country. Others will be distributed in answer to requests addressed to: Christmas Holiday Safety Campaign, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Since the Christmas Holiday Safety Campaign began two years ago, holiday accident tolls have been reduced, according to the Council. On a death/mileage rate basis, Christmas and New Year's death tolls last season were the lowest since 1947, when records were first kept.

But the challenge of reducing holiday tragedies still remains. It's small comfort to be part of a smaller statistic.



### MAKE SAFETY LOOK GOOD...WITH THE WORLD'S LIGHTEST SAFETY SHOES

CASUAL-STYLED! WEIGH FULL POUND LESS PER PAIR THAN ORDINARY SAFETY SHOES

New... safety shoes with wear-appeal for your men. Lightweight, to be less tiring. Good-looking... and just a swipe of a wire brush or ordinary sandpaper keeps them looking great. Comfortable and cooler, because the rugged pigskin breathes, doesn't trap air inside. In oxford and chukka styles. For the name of your nearest jobber, write to Haus of Krause, Rockford, Michigan.



HAUS OF  
KRAUSE

SAFETY SHOES



Industrial jobbers interested in acquiring a franchise, write to Haus of Krause, Rockford, Michigan.

the simplest  
most economical way  
to protect road crews  
and avoid accidents:

use

## WARNING SIGNS

### TELESCOPING WARNING TRIPOD PROVIDES HIGH/LOW LEVEL WARNING



Think how many ways you can use this portable, easy-to-use warning sign. Withstands 30 mph winds or more without added weights. Legs lock open for security, closed for safe handling. Upper column adjusted to selected height by knurled nut and collet. Heavy duty construction of malleable castings, steel and aluminum. Optional warning signs, flashing lights, vinyl flags with fluorescent colors available.

Height, extended, 10'6".

### PORTABLE A-STAND



Here is an outstanding barricade, built for heavy duty and hard service. Easily carried; stored flat in collapsed position. Locks in open position.

#### TWO SIZES

Large, 24" x 24" sign  
Junior, 18" x 18" sign.

### MANHOLE BARRICADE



Best possible protection wherever pipes or cables are underground. Heavy steel pipe with welded joints: sleeves and hinges of seamless steel tubing. Red enamel finish. Approx. size: 42" high, 32" deep, 32" wide.

Send for  
latest Sign Catalog.

Metal Signs for every need

**STANDARD SIGNS, INC.**

3190 East 65th St. • Cleveland 27, Ohio

## Training Survey

— From page 25

ployed. To do this in the most efficient manner, experiences must be organized under competent instructors, conscious of their responsibilities.

Further, it must be recognized that it is possible to have a highly organized training program from the administrative standpoint and yet be poorly organized with regard to clearly defined aims and the use of the most effective teaching devices.

How then, do you go about organizing an efficient formal training program? First, you must set your objectives. What do you want to accomplish? In what areas are your foremen weak? Do they need an over-all training program? Are they having trouble with training workers, with getting along with people, or in preventing accidents?

Second, you must prepare or obtain course outlines to meet these objectives. Such outlines should cover the material to be taught. They should give the instructor the necessary information to prepare a de-

tailed step-by-step procedure for presenting each unit or subject. Textbooks are often used, either in part or as a whole for preparing these outlines.

Third, you must obtain the services of a qualified instructor to implement your training program. A good instructor knows how to put the outline into action. He knows how to shorten the learning period to a minimum. He has been trained in the methods of teaching and knows how to arrange instructions in progressive teaching order. He knows how to correct mistakes, encourage effort, and establish sound procedures through repetitive practice. If a qualified instructor is not available you may have to set up your own training program for instructors.

Finally, you must blend all these factors into a program that will bring your foremen up to maximum efficiency in the shortest possible time. When you have done all this you can honestly say you have a formal training program. How does your training measure up? Is it formal, or is it "hit or miss?"

## AVERAGE NUMBER OF TRAINING HOURS

17 HOURS

2.5 HOURS

PER MONTH

TOTAL COURSE

### SAFETY TRAINING FOR SUPERVISORS

1. Indicate type of Safety Training you are now doing.
 

(a) Formal course (class basis)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Company instructors?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Outside instructors courses	Yes <input type="checkbox"/> No <input type="checkbox"/>
2. Indicate number of hours training given each supervisor, each month, \_\_\_\_\_. Total hours in Course \_\_\_\_\_.
3. What type of courses do you use?
 

(a) Company developed	(b) Federal or Assn. developed
(c) Insurance carrier developed	
(d) National Safety Council	Other (name) _____

Name \_\_\_\_\_

Company \_\_\_\_\_



# KEEPING POSTED!



Watch this space each month for late news on NSC services. Use the handy Order Form to request sample copies of publications listed in this issue or to order safety merchandise.

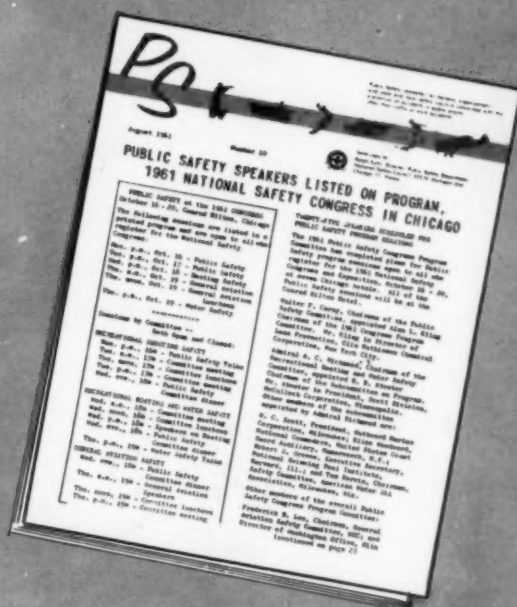
NOVEMBER  
1961

## Monthly Bulletin Promotes SAFETY IN SPORTS AND RECREATION

### "PUBLIC SAFETY NEWSLETTER"

Most employees run greater accident risks at play than at work. Recreational sports such as hunting, boating, swimming and skiing are inherently dangerous, and the need for safety know-how is especially great. Now you can help to supply that know-how, and to build important off-job safety awareness among sports-minded employees. NSC's Public Safety Newsletter, issued monthly, discusses all popular outdoor and public sports from the safety angle. Here is reading as entertaining as it is educational. Employees will enjoy . . . and benefit from . . . receiving their own personal subscriptions to Public Safety Newsletter.

**080.10** Prices (one year subscription, 12 issues) each:  
1-\$1.60; 2-\$1.40; 10-\$1.05; 100-\$0.90.



## Offer This Pre-Season Word of Caution . . .

### "HOLLY OR FOLLY?"



The happiest season of the year will turn into the most tragic for far too many families . . . because of traffic accidents. That extra glass of holiday cheer will be a factor in more than half of all fatal Christmas accidents. Impatience with speed laws or road conditions will also be important factors.

Alert your employees to the holiday highway danger. Insert these friendly, seasonal 4-page safety reminders in pay envelopes or Christmas packages. Helps to extend your company's greetings to all employees for a happy and safe holiday.

**399.45** Prices (packages of 100 cards)  
each: 1-\$2.50; 10-\$1.65; 50-\$1.40;  
100-\$1.20; 200-\$1.10; 1,000-\$1.05;  
2,000-\$1.00.

New

# POSTERS

JANUARY 1962

**JUMBO POSTERS** 11 ft. 8 in. x 9 ft. 11 in.



JANUARY 1962

**SAFETY BANNERS**

10 ft. x 3 ft. 6 in.



When you're

**IMPATIENT**



*Think it over!*

PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

2042-B

17 x 23

**TOTAL SAFETY**

means

**ALL TRADES**  
working safely  
all the time

PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

2270-A

8½ x 11½

To Protect the Elderly  
from **FALLS**



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

H-2231-A

8½ x 11½

What you **CAN'T** see  
**CAN** hurt you!



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

2036-A

8½ x 11½

**SAFE RULES  
FOR TOOLS**

SELECT RIGHT ONE FOR JOB  
KEEP IT IN SAFE CONDITION  
KEEP IT IN SAFE PLACE

PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

2157-A

8½ x 11½



# CLEAN UP

*Everyone*  
**ALL THE TIME!**

PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

2141-B

17 x 23

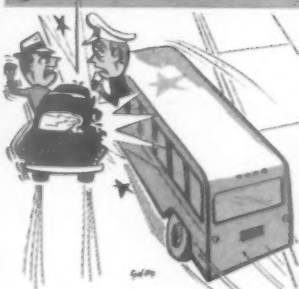


PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

2244-B

17 x 23

## CHECK TRAFFIC BEFORE PULLING OUT



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

V-2215-A

8½ x 11½



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

V-2213-A

8½ x 11½



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

2115-A

8½ x 11½



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL

T-2234-B

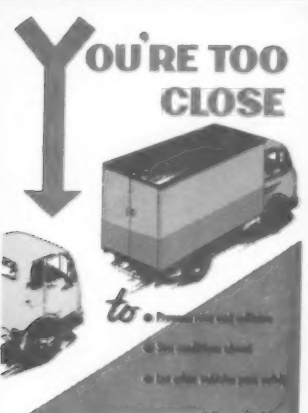
17 x 23

SEE FOLD-IN PAGE FOR





PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL  
2207-A 8½ x 11½



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL  
V-2212-B 17 x 23



PRINTED IN U.S.A.  
© NATIONAL SAFETY COUNCIL  
T-2232-C 25 x 38  
T-2233-A 8½ x 11½

OR POSTER ORDER FORM



SEND FOR FREE  
SAMPLE COPIES

EMPLOYEE TRAINING

# BOOKLETS

Employee education booklets are a basic part of your safety program. Several recent booklets are described below. Sample copies of these booklets may be obtained by circling the code number on the order form or they can be ordered in quantity for prices shown.

## SAFETY HINTS FOR THE ELDERLY

A series of six leaflets that discuss common physical impairments of the aged. They suggest environmental aids and personal safety tips on preventing accidents. Each leaflet is 4 pages, 3½" x 8", colorfully illustrated. Subjects: Forget Things?, A Little Shaky?, Poor Sight?, Tire Easily?, Doubtful About Driving? and Worried About Walking?  
**STOCK NO. 599.20**—Complete set of six leaflets (cost per set): 10—\$.18; 50—\$.165; 500—\$.138; 1,000—\$.126.

## HAZARD HUNTING

A delightful 12 page booklet, packed with dozens of practical home safety tips. Cleverly illustrated with light cartoons, there's a laugh with every lesson. The entire family will enjoy and profit from reading this booklet.  
**STOCK NO. 599.65**—Cost per booklet: 50—\$.075; 500—\$.062; 1,000—\$.058; 5,000—\$.052; 10,000—\$.047; 20,000—\$.043.

## VACATION COUNTDOWN

An 8 page, 3¾" x 8" booklet containing sound safety suggestions on vacation activities. Colorfully and delightfully illustrated, it also provides safety tips on do-it-yourself projects for the people that spend their vacations at home.  
**STOCK No. 194.40** — Cost per booklet (minimum order 50 copies): 50—\$.07; 500—\$.065; 1000—\$.055; 5000—\$.045; 10,000—\$.042; 20,000—\$.040.

## SEAT BELTS SAVE LIVES

This booklet tells the seat belt story, simply, clearly and convincingly. 8 pages, attractively illustrated, it should appeal to the better judgment of motor vehicle drivers who want to improve their chances of surviving accident crashes.  
**STOCK No. 399.31** — Cost per booklet (minimum order 50 copies): 50—\$.06; 500—\$.05; 1,000—\$.045; 5,000—\$.04; 10,000—\$.035; 20,000 — \$.032; 50,000—\$.029; 100,000—\$.026; 500,000—\$.023; 1,000,000—\$.021.

## HOLIDAYS ARE DANGER DAYS

Presents important facts on holiday driving accidents and fatalities with pertinent tips to highway travelers on how to make trips safer for themselves and their fellow drivers. Booklet size 4¼" x 3½".  
**STOCK No. 399.44** (Sold in pkgs. of 100 only) cost per pkg.: 1—\$2.50; 10—\$2.00; 50—\$1.80; 100—\$1.60; 200—\$1.50; 1000—\$1.45.

POSTER PRICES*					
SIZE	QUANTITIES				
	1	10	100	1000	5000
Suffix "A"		\$.13	\$.077	\$.066	\$.055
Suffix "B"		.25	.21	.17	.13
Suffix "C"	\$.44	.33	.26	.24	.22

\*NSC Members receive 10% discount on above prices. Quantity prices apply on a single shipment to one location. Please enclose check with orders less than \$3.00. Prices subject to change without notice.  
NOTE: New Safety Banner and Jumbo Poster are shown as a service to regular subscribers. Non-subscribers may obtain prices and information by using order form or writing council.



**NATIONAL SAFETY COUNCIL**  
**SAFETY MATERIALS**

**SHIP TO:**

ORGANIZATION \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

TO ATTENTION OF \_\_\_\_\_

**KEEPING POSTED MATERIALS**

Quantity	Stock No.	Description
	080.10	PUBLIC SAFETY NEWSLETTER
	399.45	HOLLY OR FOLLY?

**"THE KEY MAN" FILM SERIES**

- ☐ Please send set of prints for preview.  
☐ 145.20 We wish to purchase \_\_\_\_\_ set(s).

**SAFETY POSTERS (sorry no samples)**

STOCK NO.	QUANTITY	STOCK NO.	QUANTITY
2036-A		V-2215-A	
2042-B		H-2231-A	
2115-A		T-2232-C	
2141-B		T-2233-A	
2157-A		T-2234-B	
2207-A		2244-B	
V-2212-B		2270-A	
V-2213-A			

**SAFETY BOOKLETS**

QUANTITY	STOCK NO.	DESCRIPTION	FREE SAMPLE
	399.11	Driver in the Dark	
	599.65	Hazard Hunting	
	195.05	Pocket Guide to First Aid	
	261.01	Safe Driver	
	161.01	Safe Worker	

For Free sample of any of the above simply place check mark in column indicated.

**NATIONAL SAFETY COUNCIL**  
**MEMBERS ARE ENTITLED TO A**  
**10% MEMBERSHIP DISCOUNT**



**NATIONAL SAFETY COUNCIL**

425 North Michigan Avenue, Chicago 11, Illinois





## NATIONAL SAFETY COUNCIL

presents  
a new  
FILM SERIES  
on safety  
techniques  
for foremen

### The "KEY MAN"

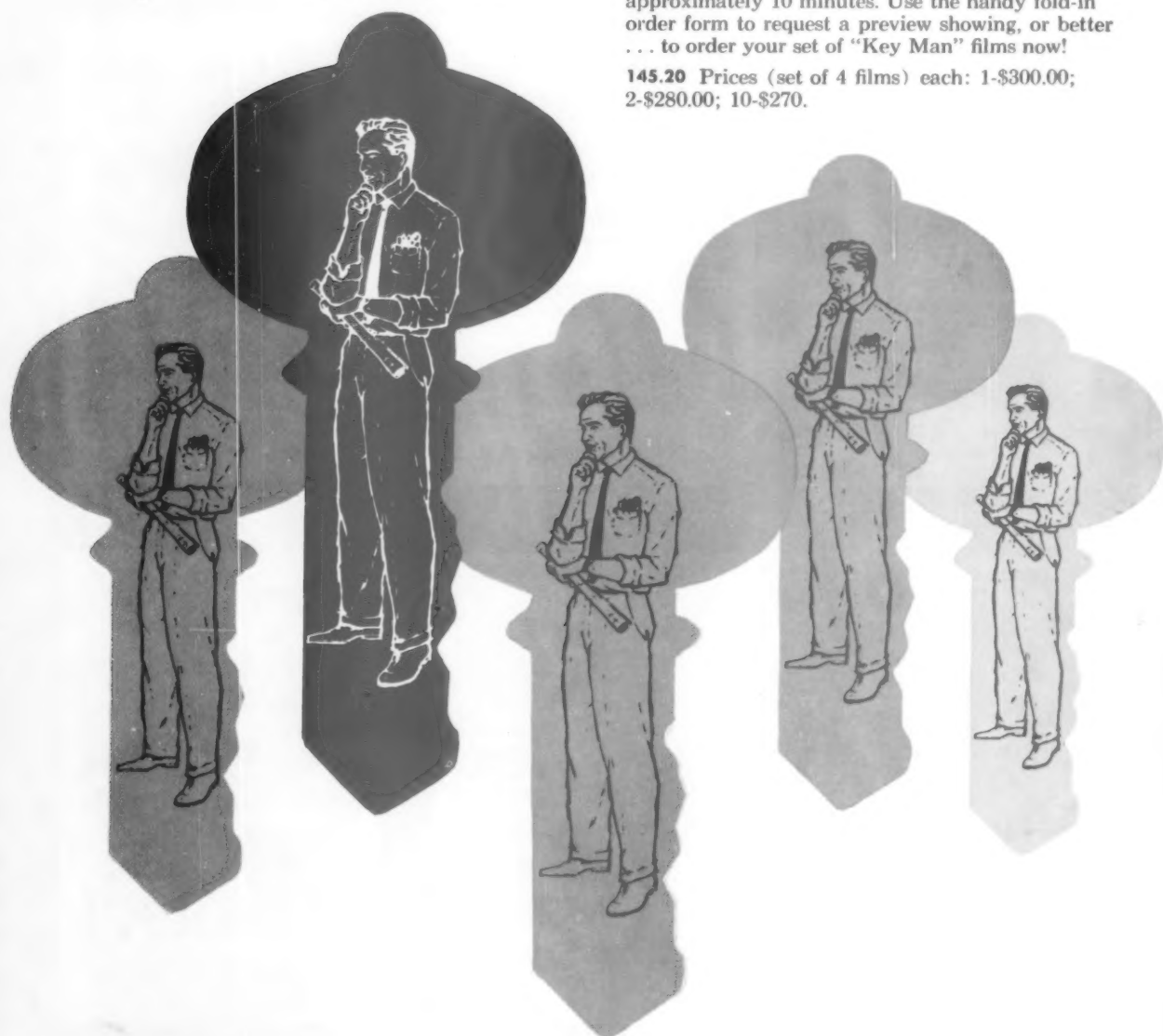
Foremen are the first-string safety team in any industrial plant. The safety director who can recruit the wholehearted support and enthusiasm of these men has found the key to a successful accident prevention program.

A new series of films produced by the National Safety Council helps you to do just that. Four films talk directly to foremen . . . dramatically point out the effects of a foreman's safety attitude on his company, his crew and himself.

*Point of No Return* studies the consequences of an accident, and shows the need for constant attention to safety. *It's The Little Things That Count*, and *People Are The Puzzle* dig into causes, and suggest effective safety techniques. *You're The Key Man* puts the important safety responsibility squarely in the foreman's hands.

Films are 16 mm black and white. Each runs approximately 10 minutes. Use the handy fold-in order form to request a preview showing, or better . . . to order your set of "Key Man" films now!

**145.20** Prices (set of 4 films) each: 1-\$300.00; 2-\$280.00; 10-\$270.



◀ SEE ORDER FORM ATTACHED



## Model Fires

— From page 28

ical should remain a constant for all fires, if the mechanism of extinguishment remains the same over the range of the fire sizes.

The table also shows that, with the exception of potassium iodide, such an effect was in fact observed. The latter material, when applied to the 1½-in. fire model, showed almost twice the effectiveness in comparison with the two larger models. The exact reason for this is not clear.

Perhaps, in the very small model the higher density and momentum of the falling particles of potassium iodide changed the effectiveness with which it could be applied and retained in the combustion reaction zone.

The last column of Table 1 presents the ratio of powder surface application rate to fuel volume consumption rate. While this varies by a factor of about two, it indicates no major change takes place in the mechanism by which the powder is active in controlling the fires.

Figure 2 shows the data in slightly different fashion. Data for sodium and potassium bicarbonate powders on large outdoor fires 13-ft. square are included. In plotting their results, obtained with square-shaped fuel areas, the diameter of the equivalent circular area was used.

General agreement of the data from these experimental groups is surprising, even more so when differences in powder application techniques are considered.

NBS data on the 6-in. and 22 4/5-in. fires were obtained with fixed dispensing equipment which produced a fan-shaped discharge covering the whole surface of the flammable liquid.

Naval Research Laboratory data were obtained by manual operation of a portable extinguisher specially fitted for the studies. The nozzle of this unit was oscillated to cause the powder to involve the whole fire area.

Results appear to give evidence that the mechanism by which these fires are extinguished is not greatly dependent on the size of the fire, at least within the range of fire sizes explored.

the number one source of information and statistics in every field of safety!

NEW 1961 edition

# accident facts

Want to be sure your plant program covers all the major accident potentials? *Accident Facts* tells you what they are — in each industry! Giving a speech on traffic accident problems? *Accident Facts* provides accurate statistics to lend impressive weight to your words! Whatever your needs, whatever your field — industry, traffic, home, farm, school — you can look to this 96 page National Safety Council booklet as your prime source of information, facts and figures on accident rates, causes, what's, why's, when's and how's!

The new, 1961 edition is now available. Use the coupon below to order the copies you need. Send to:

National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

### Accident Facts, 1961 edition (021.61)

	1	2-9	10-99	100
price each	\$1.85	\$1.50	\$1.35	\$1.25

prices subject to 10% discount to National Safety Council members.

send \_\_\_\_\_ copies of ACCIDENT FACTS to

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_ STATE \_\_\_\_\_

## Teaching Machines

— From page 21

setup runs less than \$3,000 for a classroom installation.

Next you get into the more complex computer phases, which run \$5,000 to \$10,000. But the more expensive machines usually have mass applications which compensate for their price.

Among the computer applications are those in which everyone in the classroom has a little viewer-and-answer set, and according to the individual's answer the computer would give out a different, individualized text from one master course. The portions of the text you get would be tailored according to your own rate of learning and how well you get the material. This runs \$5,000 and up.

All these machines that I've talked about are in existence.

NAISBITT: Sam, in order to come to grips with industrial safety applications of the programmed learning method, would you turn to a close examination of the method?

GUARD: Yes. Whether you have a machine or a programmed text or even a teacher using the method, this is how it goes:

The course is broken down into tiny parts, perhaps hundreds of tiny parts. We're going to communicate each part, and immediately thereafter submit the learner to a test to see if he understood.

The test may be as simple a thing as rote playback, or it may be a test that asks the learner to apply the small bit of knowledge to something he hasn't seen yet, but in any event we're going to test him immediately after he receives each bit of knowledge.

Then, we are going to have him grade his own answer by exposing him to the right answer. This way he will judge himself, and his own progress.

If he demonstrated that he understood the first item, we'll let him go on. If he didn't learn it, we may do several things:

1. We will either make him go back and relearn it, and won't let him go on until he has learned it—some things take longer than others;

2. Or, depending on the nature of his mistake we may give him a course designed only for people who have that wrong idea, so the next pieces of information he gets will be those that are particularly required by people who make his kind of mistake.

If he gets it right, not only does he know immediately that he was right, but that we'll probably give him some praise.

If he gets it wrong, he'll immediately know he's wrong, and we'll tell him why he was wrong. Now, we'll put the learner through hundreds of these little tests. This is really "programmed learning." It involves a different kind of participation on the part of a student than does conventional teaching.

Conventional teaching usually requires, although not always, that the student listen to a great deal of information; listen in a passive way. Then, at a much later point, he finally puts the information to use; and the usage is usually lumped into a period of an hour or so.

In that period, when we ask him to "test" to see if he got it, the teacher grades the test; so that the test itself is not an instructive thing.

24 MILLED NEOPRENE STANZOILS FOR LONGER WEAR IN

# CHEMICALS



Pioneer chemical resistant gloves go on the job with more wear built in because they're made of **milled** neoprene tested to give longer service in 103 basic oils, greases, acids, solvents, and other chemicals. There are 65 Pioneer Glove styles, including the well-known Pioneer Stanzoil brand, to provide liquidproof hand protection for every industrial job requirement.

**PIONEER**

The PIONEER Rubber Company, 237 Tiffin Road, Willard, Ohio

6 STYLES FOR WET, DRY, HOT, OR COLD PROTECTION PLUS

# COMFORT



Comfort is an important safety factor when the job involves any combination of heat, cold, chemicals, or abrasion. Pioneer's comfortable linings keep gloves on, hands safe. Liquidproof coatings of neoprene or Pylox™ protect against penetration. See and select from these and 59 other Pioneer glove styles shown in your free copy of the Pioneer Industrial Glove Catalog. Write for yours.

**PIONEER**

The PIONEER Rubber Company, 237 Tiffin Road, Willard, Ohio

CIRCLE 52 ON READER CARD

It's only after the student gets out of the learning role that he is able to participate actively in the tasks and problems that he's trying to learn.

This, in a nutshell, is what programmed learning is all about. From this basis, of course, you can get extremely complicated, according to what you're trying to teach, whether it's simple information, whether it's concepts or behavior or attitudes.

NAISBITT: Then through use of this method the learner gets immediate reinforcement of his opinion, and if he's wrong it immediately corrects his opinion, so he doesn't go for a whole day with the wrong answer in his head.

GUARD: Right. The learner gets a stimulus, and must make a response, then he gets reinforcement of his response, either positive or negative, according to whether he's right or wrong. Then he's allowed to proceed to the next tiny piece of information, the next tiny task.

NAISBITT: You know, the way you describe the teaching machine, with the breakdown into tiny parts, I would presume the steps are cumu-

lative. You take your first step, you make sure you get it and understand it; then you take the second step and make sure you understand it and also learn how it relates to step number one.

GUARD: Oh yes, very definitely.

NAISBITT: Then step number three, how it relates to one and two, and so on. What the method seems to do in an exaggerated way is to stimulate a really good learning process.

GUARD: The point to keep clear is that conventional teaching has been completely burdened by communication; the problem has been to stand up, and give as much out-pour of content as possible, and cover a lot of ground thoroughly, before anything is required of the student.

NAISBITT: You think that a student could teach himself in the programmed way, or the teacher could teach that way — but they just don't in either case.

GUARD: That's right. One of the changes that I expect from teaching machines is that teachers will modify

their present practices and adopt new ones based on the method used in programming the machines.

NAISBITT: O.K. Sam, but jumping on a bit here, if you break everything up so minutely, does this slow up — or speed up — the learning process?

GUARD: The claim you'll hear most often is that most material can be covered in half the time conventional ways require.

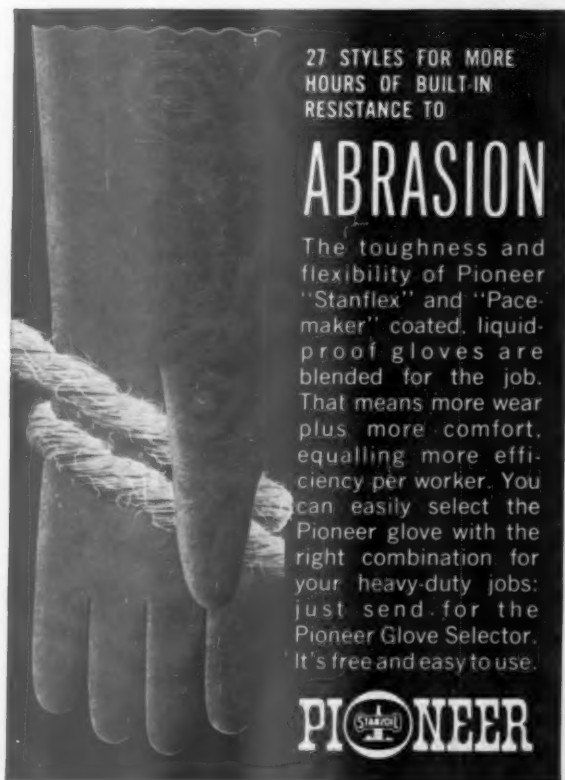
NAISBITT: And learned twice as well, I suppose.

GUARD: Learned *as well*.

NAISBITT: *As well* — only *as well* — that's the claim, eh? It's not going to do for safety.

GUARD: This brings up a point that I don't think we've covered adequately: the motivation of the student, that is, getting people sufficiently interested to pay attention.

Now there's a built-in bonus for student interest in programmed instruction, in that you teach a student so simple a thing that he'll get a right answer. Everybody's going to get right answers; as the learner goes through the course he will



27 STYLES FOR MORE  
HOURS OF BUILT-IN  
RESISTANCE TO

## ABRASION

The toughness and flexibility of Pioneer "Stanflex" and "Pace-maker" coated, liquid-proof gloves are blended for the job. That means more wear plus more comfort, equalling more efficiency per worker. You can easily select the Pioneer glove with the right combination for your heavy-duty jobs: just send for the Pioneer Glove Selector. It's free and easy to use.

**PIONEER**

The PIONEER Rubber Company, 237 Tiffin Road, Willard, Ohio



8 STYLES FOR  
DEPENDABLE SHEERNESS IN

## PRODUCT CARE

When the product needs protection and the job requires dexterity, Pioneer blends sheerness with wearability in just the right degree. One of the 8 Pioneer styles of Nimble Fingers™ or Sheergrip™ gloves in latex, neoprene or Pylox™ is designed for your job. Selection is easiest from the Pioneer Industrial Glove Wall Chart, covering all 65 glove styles. Write for your free copy.

**PIONEER**

The PIONEER Rubber Company, 237 Tiffin Road, Willard, Ohio

CIRCLE 52 ON READER CARD



# Unique New Suspension Makes APEX Safety Hats & Caps



## Exclusive Most Efficient Design Cuts Suspension Weight 30%

Most efficient suspension ever designed... offers these outstanding advantages

- Simplified two-part design provides broader and better distribution of impact, prevents hat wobble, offers three-position adjustment for crown height and wearing angle.
- New formula polyethylene construction... resists cracking from long exposure to ultra-violet light.
- Insures minimum 1 1/4" safety margin between head and shell.
- Has greater range of adjustment to fit head sizes from 6 1/2 to 8.
- In assembly easily snaps in and out of T-slots for quick replacement and fits any APEX hat and cap now in service.
- Built-in safety construction eliminates metal parts, buttons and tie string.
- Easy cleaning — greater hygiene.

There's an APEX safety hat or cap for every application:

- FIBERGLASS.....in eight colors
- ALUMINUM.....in five colors
- ELECTRICAL.....in safety yellow
- MINERS.....in safety yellow

Write today for detailed literature

**apex** SAFETY PRODUCTS

Division of The WHITE Sewing Machine Corporation  
801 W. BALTIMORE AVE. • DETROIT 2, MICHIGAN

almost always get right answers! The courses are so constructed that at least 90 per cent of his answers will be correct.

This in itself provides a great pleasure and gratification. Programmed courses are fun. The reason they're fun is you see yourself learning; in fact, this seems to be true even when you are not particularly interested in the content of the course.

You see yourself acquire and display knowledge that you know you didn't have just minutes before.

In conventional teaching you don't get this kind of immediate reward and feeling of gratification.

HANEN: Now that we've had a good look at the programmed instruction method, we must go on to see what it can do for safety training. We will be looking for two things:

1. Can the new method successfully motivate a person toward safe practices?

2. In what areas of safety training can the method best be applied?

Sam, it seems to me that the method you've described offers only rewards of an intellectual type. Sure, it's fun, and it's fine to conceive of learning as a game that you're playing, I will grant you.

But there is this to consider: the impact on the attitude of the learner to keep himself out of danger may or may not come from this type of learning situation. It clearly can come and has come, we know, from the situation in which the learner is dealing with a person he respects for one reason or another, namely the foreman.

Certainly, there are many things involved — respect for authority, fear of loss of job, desire for reward and so on — but at any rate, the learner is dealing with a person he respects.

And because of this all-important condition of respect, he may be suitably impressed, as regards his attitude and his behavior pattern, toward keeping himself out of danger. I just wonder if programmed learning can provide the same sort of rock-hard, motivational 'stuff' that a foreman can impress upon a person?

I gather you feel the machines can teach anything that can be taught by conventional methods, but

## SAFETY GLASS TROUBLES?



**EYEGGLASS  
HOLDER**

PAT.  
U.S.A.  
CANADA

SERON MFG. CO., Barber Bldg., Joliet, Ill.

Helps prevent slipping, sliding, falling off or accidental knocking off of personal or safety glasses.

Relief from sore ears due to curved bows. Positive, comfortable retention. Adjustable tips will fit all types and sizes of temple ends. Adjustable head band will not interfere with hat or cap. Further information will be sent on request.



RETAILS  
\$1.00 EACH



this still begs the question of safety training since we have yet to demonstrate that the things we are doing correspond to conventional teaching. It may just be that the ways in which safety is learned in the plant are quite different from conventional learning. It seems to me it would be very hard to program respect of the sort a foreman can build.

I think an analysis is required to find out if the way safe practices have been brought into being really can mesh with the way things can be taught through programmed learning.

**GUARD:** Essentially you've given me a number of challenges. First, you're asking if the machines can provide a means powerful enough to influence the behavior and attitudes of the learner. Here I think the key to safety lies in affecting specific behaviors in specific situations. It's clear from our present knowledge about teaching machines that this can be done.

**ROSE:** I'm not so much concerned about influencing behavior and attitudes as much as, "Will the man who comes out of a programmed safety training course be able to operate his machine day in, day out without having an accident?"

**GUARD:** I hate to make this analogy. The man who created programmed instruction is a 'pigeon and rat' man. His pigeons can flawlessly perform tasks, and extremely complicated tasks, until they fall dead!

**NAISBITT:** Like playing ping pong.

**GUARD:** Till they actually fall dead.

**ROSE:** Will men behave this way?

**GUARD:** I hope not. But to come back to the machines themselves, we have at our disposal some of the most powerful communication devices known.

1. The machines can be made fully audio-visual, so that you can really bring home the impact and consequences of things, in a vicarious way. You can explain and demonstrate things in the audio-visual way which can't be put across in any other form.

2. We can also go into the "link trainer" setup. Potential dangers can be made to seem very real in a good simulator such as the driver trainers now in use. This kind of teaching de-

CIRCLE 55 ON READER CARD

**B.F. Goodrich**

WANT PROOF  
OF SAFE SOLES?  
LOOK FOR THIS NAME

**Hycar  
rubber**

IT'S THE  
PROOF OF  
EXTRA  
OIL-RESISTANCE

**What is Hycar?** The special-purpose rubber from B.F. Goodrich Chemical Company. More and more shoe manufacturers are using Hycar in soles and heels for oil-resistance and longer wear.

**Hycar**

*Rubber and Latex*

**B. F. Goodrich Chemical  
Company**  
3135 Euclid Avenue  
Cleveland 15, Ohio



### "PROTECT YOUR CLIMBERS"

With Johnson All Rubber Ankle Action Dielectric Ladder Shoes. The Choice of Ladder Climbers in all parts of the world.

#### WORK SAFELY ALL-WAYS

##### FOR EXTENSION LADDERS

Our Step Ladder Shoes are popular with maintenance men in homes, office buildings, schools, hospitals and etc. Dealers in all principal cities. Ask your Safety Supply Dealer or send direct. Your order will be shipped promptly.



##### FOR STEP LADDERS

**Johnson Ladder Shoe Inc.**

**Eau Claire, Wisconsin**

CIRCLE 56 ON READER CARD

vice really constitutes a special practice machine. Incidentally, the Army has some of these.

NAISBITT: They're using programmed learning?

GUARD: Yes, and I'd like to make one point on this. The most hazardous situation I know of is war. The Army teaches soldiers how to fight, which is really a great big course in "survival," if you want to think of it that way.

In fact, what all armies — with a few notable exceptions — have been taught is how to survive in a hazardous situation so they can perform their duties and fight again tomorrow and tomorrow.

Now the Army does this pretty successfully, I think, in a variety of ways — practice, training, lectures, and battle. So my answer as to the power of the machines is — admittedly it's an indirect answer — is that one of the biggest users and pioneers in programmed learning is the military! They are faced with the problem of multiple hazard. And they believe they have had some success with their use of various teaching machines.

ROSE: Sam, I think you'll have to do more than you've indicated to bridge the gap between mere intellectual response and learning new behavior patterns.

GUARD: A moment ago, Don, you brought up the case, "Will the learner put the guard in place first thing when he walks up to the machine? Will he make the routine kinds of checks that he's supposed to?" I'm interested to know if we could let him practice on a machine that is not in a work production situation, and see whether he can actually do what we've been trying to teach him?

ROSE: We are getting away from practicality. Certainly this can be done. We could have a machine that had everything on but the current. A grinding machine, for instance, could be set up so the learner selects the speed at which it's supposed to go, and puts the guards in place. This can be done, but industry's problem, continually, with this sort of thing is the time and expense involved. For the moment we can leave that aside. Theoretically, yes.

GUARD: Nevertheless, you want to train an operator in a situation that is not dangerous, since you don't want to expose the untrained to danger. Now the question I ask you is, "When you move that man up to the grinding wheel, and expose him to the danger, how do you know that he learned what you taught him — how do you know he has learned the wheel is dangerous?"

ROSE: Very simply: by watching to see if he observes precautions.

GUARD: So this requires placing the learner in a potentially dangerous situation after you've instructed him in the necessary safe practices and also putting his teacher there to watch him. It takes two men; the learner and somebody to watch him.

ROSE: The supervisor or foreman.

GUARD: Who supposedly can move fast enough so that if the learner does the wrong things, he can be kept from getting injured.

Frankly, I don't think the role of the foreman can be eliminated any more than the teacher's role in the



**new** **MSCO** **QUALITY**

**UtiliPort**

**THE MODERN FOLDING STRETCHER**

Why use an old-fashioned Army-type folding stretcher when for so little more you can have the modern UtiliPort?

**COMPARE**

MODERN UTILIPORT		OLD-FASHIONED ARMY TYPE
Anodized aluminum. No rust—won't burn or rot.	<b>POLES</b>	Wood
Non-ripping vinyl-impregnated nylon. No rot or mildew. Acid- and flame-resistant.	<b>BED</b>	Canvas
Cadmium-plated sleeves and anodized aluminum alloy hinges.	<b>JOINTS &amp; HINGES</b>	Painted steel
7-1/4 lb	<b>WEIGHT</b>	25 lb
More than 400 lb	<b>LOAD CAPACITY</b>	Dependent upon age and condition of canvas and wood
37" x 3" x 3"	<b>DIMENSIONS FOLDED</b>	48" x 7" x 4"

UNFOLDS IN SECONDS  
EASY TO CARRY  
EASY TO STORE

UtiliPort #450 only \$34.00... see your MSCO distributor

**Medical Supply Company** *Specialists in first aid*  
Dept. AH1, Rockford, Illinois

CIRCLE 57 ON READER CARD

school can. But a lot of the foreman's headaches can be eliminated. Where, previously, you "exposed" the learner to a whole lot of instructional material at once, you had to face the question, "Did he pay attention—did he learn it or was he sleeping—or, does he comprehend what you're talking about?"

You could give him a test of one sort or another to find out what he learned, but that takes time and in the end the foreman would have to put him through a shakedown run anyway.

Programmed instruction is tailor-made for this situation. First, the learner is able to go through the material at his own pace. And as I've said, this averages out to about half the time previously required.

Second, the learner is tested every step of the way so there is no question whether he comprehends the material. Remember the language barrier is not involved here, since full visual instruction can be used. And by the way, Hughes Aircraft gives instruction of this sort right on their assembly line.

Ultimately, Don, I'm sure we'll find that the foreman is precisely the bridge for the gap between the intellectually prepared learner and actual safe practices. We can help the foreman by giving him men who—and we can be certain of this—understand exactly what the practices are.

So, Pete, I've set out to answer your first question, "can the machines motivate safe behavior and good safety attitudes?" by breaking it up into two parts.

1. Can the machines teach the specific behaviors which you call safe practices? And I think we've seen that they can do very nicely in that respect.

2. Can the machines influence safe behavior in a more general way, in the way you refer to as accident prevention?

NAISBITT: I'm especially concerned with this latter problem. Surely we want the learner to generalize from the programming and develop attitudes for safe conduct in areas not specifically defined in the courses.

GUARD: Well, John, I'm not sure

the machines, which is to say, the programming experts, are ready to tackle the general problem. But we could come a lot closer to an answer, if we took a look at accident causes. Some accidents come from ignorance—you didn't know what to do. Some accidents come from inattentiveness—you knew, but you weren't paying attention. Some accidents come from poor judgment—you 'miscalculated' the situation. What other causes do accidents stem from?

NAISBITT: Those seem to be the major causes, Sam, and beneath them run various attitudes and psychological factors such as arrogance, overconfidence, insecurity, and so on.

GUARD: Well, let's start with the causes and work our way up to the problems of attitudes. Of the three causes, I think we would all agree that the problem of ignorance can be handled by machines. The learner can easily acquire knowledge of a great number of safe practices.

HANEN: Even when we move into the grayer areas of inattentive-

# WINDSOCK

warm as a  
stocking cap...  
yet costs only 25c



We took the good old snug, warm stocking cap and re-designed it to fit comfortably under a hard hat. The result is the StaSafe Windsock. There's nothing complicated about wearing a Windsock . . . no pushing, no snapping and unsnapping, no bothersome and time wasting installation. Best of all there's no size problem. Every Windsock fits every man because the stockingette weave easily expands to any head size. Windsocks are easy to order, too. No variations in helmets to keep in mind. No variations in fabrics or sizes. Just specify Windsocks and they'll fit!

One dozen only \$3.00 plus postage.

## STANDARD SAFETY EQUIPMENT COMPANY

431 NORTH QUENTIN ROAD • PALATINE, ILLINOIS

204 BROADWAY  
NEWARK 4, N.J.

12921 W. WASHINGTON BLVD.  
LOS ANGELES 66, CALIF.

855 EAST 152nd STREET  
CLEVELAND 10, OHIO

CIRCLE 58 ON READER CARD





# Taylor's Tougher end to end!

SIZES—9/32" thru 2"

Special analysis alloy steel... electric flash welding... controlled heat treating and patented Tayco Hooks make TM Alloy Sling Chains tougher! Link-by-link inspection, scientific testing and signed Test Certificate are additional reasons why TM Alloy Chain is preferred by safety engineers... material handling men... production superintendents! Call your distributor or write for Bulletin 14-A.

Chain is our specialty—not our sideline!

**Taylor**  
**Made**  
**CHAIN** SINCE 1873

**S. G. TAYLOR CHAIN CO., Inc.**  
General Office: Hammond, Indiana  
Plants: Hammond, Ind., and Pittsburgh, Pa.

ness, poor judgment, and the attitudinal matters, it would seem on the surface that the machine methods are extremely relevant because you can assume that a person will not willingly hurt himself; and therefore it seems easy to construct the type of rewards and the type of testing that would guarantee you probably taught the person to avoid things that are going to hurt him. We assume—and *want* to assume, that we're dealing with people who have no desire to hurt themselves.

Such an assumption makes the use of teaching machines appear quite feasible. The difficulty with it is that accidents *do* happen—people *do* hurt themselves. So it seems to me that programmed instruction would have to reach right down to the wellsprings of our behavior. Do you see what I'm driving at, Sam?

GUARD: Yes, but I don't like it! The only way you can make that acceptable to me is to assume that our mid-twentieth century American industrial society is psychotic!

If one wants to make that assumption, perhaps a good case can be made. But I think a better case could be built on the fact that people seem much less concerned about the consequences of what they do in getting someone else hurt.

Take the example of a man who walks away from his machine and leaves it in a state that he *knows* has some danger—because he is not going to be the next guy to use it. He may not even *know* the next person! Or, let's say someone spills some water or some oil, and doesn't mop it up, just goes on his way.

NAISBITT: Well, with the teaching machine can we influence his attitude in order to change this kind of behavior pattern so he will wipe up the oil?

GUARD: Certainly some of the people who advocate programmed learning claim this *can* be taught. But teaching almost total attitudes, or patterns of safe behavior under, say, conditions that we haven't met before and that have never been covered in any course is asking an awful lot at this point in programmed learning's infancy. I *am* sure that such a teaching goal is of great interest to industry, because industry not only wants a man to be safe on his machine, but wants him

to be safe throughout the plant, and wants him to use safe practices when he leaves the plant so he won't have any off-the-job accidents. Industry is fast becoming interested in the total individual.

HANEN: Gentlemen, I think we can turn now to the areas of safety training in which programmed learning may best be applied.

In recent days there has been a lot of talk about the problems of retraining the labor force displaced by automation. The government is greatly concerned with this and many unions now have specific retraining clauses in their contracts.

It seems to me that the retraining situation is the perfect place for programmed learning and also the *imperative* position for safety training. Let me cite an example: an accident situation arose a short time ago in which a man came into a plant—he'd been laid off—and was put in with a group of new men to be trained. The foreman who got the group for retraining knew the man had worked there before, and told him about one or two new wrinkles in the operation but didn't spend a great deal of time with him.

Three days later, one of the things that the older hand had specifically been warned about brought him into an accident situation, and he suffered a disabling injury. It seems to me that this problem might well be obviated by the use of programmed learning.

GUARD: That's right! Even though the man was specifically warned of the situation you still had the problem, "Did he understand the warning?" Programmed learning would solve that. It could tell us whether he at least understood the warning.

I think there's a good chance that programmed instruction could have demonstrated and taught the warning thoroughly prior to use of the equipment. It's much different from a foreman's warning.

ROSE: Can I go into another area here? It appears that one of the first things you would suggest, then, would be replacing the existing safety courses.

GUARD: No! That would not be one of the first things I would suggest. The first thing I would suggest is putting in teaching machines, or programmed courses where there



are no existing courses. As long as you have a course in a plant and an application that is successful, I would leave it there for the time being, until the efficiency of the machines demonstrates itself. I would use the machine applications — and the low cost involved — in those places where no formal safety instruction now exists.

**NAISBITT:** Well, Sam, we're not asking that the machine be simply a substitute that can't do any better than our conventional methods. I'll grant you the machine may be quicker and more efficient, but in what ways will the results for safety be any happier?

**GUARD:** I'm quite sure the overall result will be a better mass communication program. In regard to the individual, he will have the personal success bonus I mentioned, plus the immediate reinforcement of specifics. I won't try to look beyond that.

**NAISBITT:** One thing I see is that, presumably, you can maintain a level of quality that you certainly can't count on using various instructors. If everyone gets the same programmed instruction at least you know the quality is going to be consistent. Quality control is of great value in this area.

**ROSE:** A moment ago, Sam, you spoke of the low cost of machine applications. Is programmed instruction cheaper than present conventional methods?

**GUARD:** I believe it is. On a cost-per-student basis, there's no question about it because the most expensive item in conventional teaching is the teacher. In industry, the teacher is quite often a foreman or safety supervisor who, clearly, is paid more than the people he's teaching, and the time spent on training is valuable production time. But to reach the low cost-per-student basis, you must embark on the usual "payoff" schedule of research and development costs. First, the initial cost of installation for a programmed learning setup is just as high as a move to any machine setup. It requires two things:

1. The development of a program; it has to be a good one, and this takes time and a lot of cost; it probably takes the best brains you can find, the best experts on the subject matter, the

best experts in terms of this new method of teaching, and

2. It takes trial periods of experimental use on people.

So the investment in a program and its development and achievement is quite high. But the per-man-cost from then on is substantially lower. And this is a payoff schedule that industry is familiar with.

Incidentally, I might say that one of the big obstacles to progress with programmed instruction is that our educational system — which is not familiar with amortization and depreciation costs — is quite shocked at the installation and developmental costs. They're much more willing to have "high overhead" throughout the years.

Also there are a lot of moral concerns and resistance to programmed instruction in the teaching of children in the public education system which I don't think are applicable to industry.

I would expect industry to make much further progress and much earlier progress than the teachers. I think it would be a big mistake if industry sat back and said: "Let's see what the colleges and schools develop and if it gets along all right there for ten years, then maybe it will be a good investment for us." I think that would be a big mistake on our part, because there are other issues at stake in public education that don't concern industry.

**NAISBITT:** That's true. You've really got something that's more efficient, something that can be done in half the time; and you've got quality control. But the cost is really a big question. Now, how much does it cost to develop a program?

**GUARD:** Well, since we have 25 years of questionnaire writing knowledge, I can write a questionnaire in a matter of hours, for a very low cost. In fact, a few people working a few days can, for just hundreds of dollars, develop the most difficult of questionnaires. We know a lot about this. I think this is completely applicable to the programmed instruction situation and when industry gets a sufficient number of programmers, I think the cost of developing a program will go way down.

In fact, I will make a guess that within three years the National Safety Council will have a programmer on its payroll, a specialist who can



# Tayco Hooks

## Taylor's Tougher

Safety Superintendents and Material Handling Engineers are getting longer, safer, more maintenance-free service from TM Alloy Sling Chains. Taylor's patented Tayco Hooks are an important reason. Channel-type construction not only protects the hooker's fingers, it also adds extra strength for tougher, safer service than conventional hooks. Get all the facts! Call your distributor or write for Bulletin 14-A.



Pat. No. 2,644,308

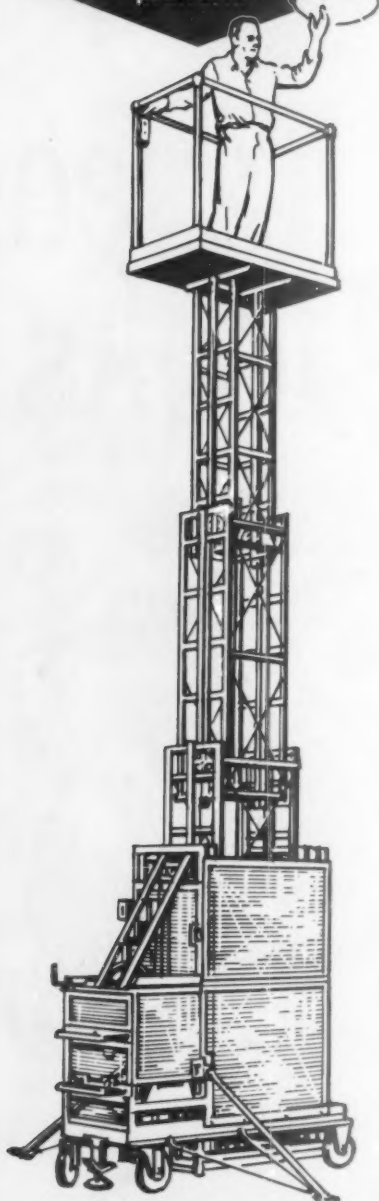
Chain is our specialty — not our sideline!

**Taylor**  
**Made**  
**CHAIN** SINCE 1873

**S. G. TAYLOR CHAIN CO., Inc.**  
General Office: Hammond, Ind.  
Plants: Hammond, Ind., and Pittsburgh, Pa.

## Complete Safety with a HI-REACH TELESCOPER

Fast work with all tools  
and materials on the  
platform



**Model LB**  
(Illustrated)  
**Hi-Reach Telescoper**  
Lifts 20 ft. to 40 ft.  
\$1510.00 up

**Model PUL**  
Lift 10'9"—\$370.00  
Lift 13'0"—\$400.00

Custom built Hi-Reach Telescopes up to 100 ft.  
Write for complete catalogue  
Headquarters for standard and special  
built overhead servicing lifters and  
material handling equipment since 1901.

**ECONOMY  
ENGINEERING**

4518 West Lake Street, Chicago 24, Illinois

take your safety knowledge and program it for instruction.

ROSE: Here's another cost problem in industrial safety. Briefly, safety courses are available; they're in quite broad use. The problem that exists today involves courses where none now exist, which ties in with your idea for the best place to start with programmed instruction.

Many of the industrial accidents taking place today occur where there is no course of any kind; and where there seems to be some resistance in putting a course in. The situation pops up most of the time in small shops.

GUARD: I would suspect the resistance pops up because the owner either must get somebody to do it, which does not make "production sense" to a cost-conscious small employer, or else he must do it himself. I think the machines and the program remove both these burdens. Nobody has to do it then; the machine does it.

ROSE: To take a practical example, the National Safety Council has a number of different kinds of courses available; safety talks, home study courses, and so forth, which can be had at relatively low cost. The problem is getting these into use. The small shops think they don't have the time to do it and can't afford it, until it's demonstrated that accidents are costing them too much money.

I think it would be very difficult to sell the small shop, which is so cost conscious, on this big initial expenditure. If the developmental end and its high cost is going to be borne by somebody, it's not going to be the wide band of small shops. It would seem almost impossible to put enough money into the development to cover all the small shop situations.

GUARD: No problem. I can see a dozen kinds of applications that would bring in the money. For example: Every new machine the small shop buys requires an operator to use it. The company that supplies the machine and puts it in is willing in most cases, today, to train somebody to use its machine.

Programmed learning would actually lower the training costs, and the company that supplies or rents

## AVAILABLE FROM ACME



Chin Style Masks—1st. Line Service  
Chest Style Masks—Larger Canister  
Chief Style Masks—Still Larger  
Gaugers Masks—Single Hose  
Gaugers Masks—Double Hose  
Fumigators Masks



Compressed Air Masks  
Constant Flow  
Welders (Shown)  
Tank Cleaners  
Manifolds  
Hose, Quick Couplings  
Compressors 1-3 Men  
Carts for Compressor & Supplies  
Control & Filter Stations



Hose Masks  
With or without blower  
Single or two man  
Welders Facepiece



Look For The Acme Shield  
The "Symbol of Quality  
Gas Mask Protection"

Your need for many other regular or special Masks can be met from our ample stocks of

Interchangeable Facepieces  
Accessories  
Chemicals

Ask for circulars or catalogue

**ACME Protection Equipment Co.**

1209 KALAMAZOO ST.

TEL. 1293

SOUTH HAVEN, MICHIGAN

## WORKER MORALE

UP

HOW  
TO  
KEEPDERMATITIS  
COSTS DOWN

One of the problems in your plant is how to keep your workers' hands nimble and productive at all times. The answer is simple. Use PAX. PAX is the remarkable heavy duty skin cleanser with its own built-in moisturizing lotion that helps nature protect your workers' skin... keeps workers happy.

A product of the well-known PAX LABORATORY, Pax Lano-Sav Heavy Duty Granulated Skin Cleanser is especially formulated to give you the best possible cleansing efficiency, coupled with the exclusive PAX LANO-SAV skin protecting emollients to help prevent dryness, chapping and skin irritations. Skillfully balanced formulation gives you built-in economy... exactly the right amount of mild but active cleansing agents, and exactly the right amount of gentle, non-abrasive scrubbing bulk for COMPLETE cleansing with smaller servings of PAX. Five pounds of PAX will actually last one man for a full year with many daily washups. This fine skin cleanser in actual use will cost you far less than cheap hand scouring soaps. If gummy resins and stubborn work soils are causing skin irritations and hiking compensation costs up... dragging worker morale and efficiency down... YOU NEED PAX.

Pax Lano-Sav Heavy Duty has been a favorite of American industry for more than thirty-five years.



G. H. PACKWOOD MFG. CO.  
1545 TOWER GROVE • ST. LOUIS 10, MO.

National Safety News, November, 1961

the machine should be willing to bear the development costs on that score alone. I don't see any reason why they couldn't be urged to build the desired safe practices right into the training courses.

I can see situations in which the insurance companies and others who are directly hit with the high costs of accidents would be willing to put up the large initial development money.

And I can see the National Safety Council itself providing distribution means, once programs are developed.

There are probably a number of people, including our good friend the government, ready to make a substantial research investment in the programmed instruction field. In fact, this year the government has put three million dollars into research on teaching machines alone!

As for the machines themselves, the plants need not own them. Let them rent the machines. If I want to show a movie tonight I'm not going to spend \$200 for a movie projector; I'm going to rent one for \$3. I don't see any reason why teaching machines can't be leased and rented on the same kind of basis.

HANEN: Gentlemen, we've come a long way toward looking the teaching machine straight in the eye. It poses questions that we will all have to deal with. Sam, would you care to put a lid on the discussion?

GUARD: Well, I think one question is answered. We know that a lot of safety training is probably simple. We know to begin with what a person ought to do and we know we've got ways to tell him about it. What we're concerned to know is, "did the person learn?"

I would think that much of the difficulty in learning safety comes because what is taught really isn't learned. People are merely exposed to the material.

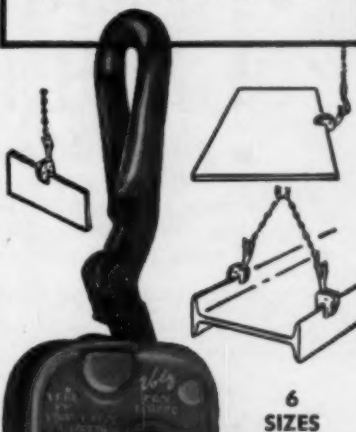
In programmed instruction we have a system which guarantees that people learn what you teach them. People enjoy sticking with the courses, and in addition industry can insist that they do. I think we are finally past the old question, "Is anyone listening — we're talking, but is anyone listening?"

YOUR BEST MOVE... MOVE

with **MERRILL**  
MATERIAL HANDLING  
DEVICES FOR THE MOST  
IN

*Safety and  
Economy*

Imitated, but never duplicated,  
Merrill Lifting Clamps are Drop  
Forged to give you Safety in Hand-  
ling and Economy in Operation.



**FEATURING  
THIS  
MONTH**



**LARGE OPENING "G" CLAMP**  
Designed for lifting and rolling  
extra heavy and extra thick  
plates and slabs. Standard 3"  
ranges to 12". All capacities.

Over 25 Material Handling  
Devices described in our  
catalog C-3.

Ask for a copy.

**MERRILL BROTHERS**

Producers of Drop & Press Forgings

56-28 ARNOLD AVE., MASPETH, N.Y.



**DON'T SLIP UP ON SAFETY!**

# COSTS GO DOWN with FERROX UNDERFOOT

Want to save money and solve your safety flooring problems? Simply install low-cost, long-lasting Ferrox. Millions of tiny, sharp abrasive particles in Ferrox provide safe, non-slip footing. One gallon covers approximately 35 square feet. Write for Ferrox Bulletin.

AD 188

**AMERICAN ABRASIVE METALS COMPANY**

464 Coit Street, Irvington 11, New Jersey



**Fabricate  
Enclosures,  
Containers,  
Guards, etc.**

## ...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

**Get more facts FREE**

Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-857.

Territories available for qualified representatives.

**ACRO**

**METAL STAMPING COMPANY**  
1901 North Buffum, Milwaukee, Wis.

CIRCLE 66 ON READER CARD

**Wire from Washington**

— From page 14

volving the start-up and/or operation of AEC-owned, nonlicensed reactors including critical facilities." The new contract clause requires the contractor to prepare a hazard summary report prior to initial start-up (with plans to assure safe operation, to carry out a training program to assure such safety, to assure presence of qualified and adequately trained personnel and to establish an approved inspection system), and to prepare a plan "for minimizing the effects of a nuclear incident."

The U.S. Department of Labor issued a report on injuries and accident causes in the fluid-milk industry. Strains and sprains were the most common disabling injuries; back strains predominated. Falls and overexertion were common. Hazardous working conditions (many of which were beyond the control of the industry, such as streets, roadways, sidewalks, and customers' premises) were identified in 89 per cent of the accidents, and unsafe acts by the employee in 91 per cent; both hazardous working conditions and unsafe acts, according to the Department of Labor, "had a part in the occurrence of most of the reported accidents." The most common unsafe acts of workers were failure to watch one's step and assuming an unsafe position or posture. At the time of their accidents, nearly half of the injured workers were handling materials or equipment.

The International Labor Office announced that fully satisfactory copies of chest radiographs have been produced for the first time in connection with dust diseases of the lungs, and that it will give them world-wide distribution.

Commercial Transportation. P. L. 87-247 authorizes the Interstate Commerce Commission to delegate to employee boards the review of cases involving safety, subject to appeal to the I. C. C. itself.

The Atomic Energy Commission issued notice of proposed regulations designed to assure that ap-



appropriate precautions are taken in connection with shipments of irradiated fuel elements to protect against accidental criticality, radiation exposure of individuals and release of fission products. The regulations provide criteria for cask design and for "shipping procedures which will be acceptable from a radiological and nuclear safety standpoint." Licenses will be issued for three operations in the transportation process: loading the fuel elements into the casks, transporting the loaded casks, and unloading the casks. Neither the method of mounting casks on vehicles nor the operation of the vehicles are covered by these proposed regulations.

The I.C.C. broadened its investigation of railway grade-crossing accidents to include all accidents at railroad-highway crossings involving trains and highway motor vehicles regardless of the nature of the commodities transported, in order to enable the commission to determine the adequacy of its present safety regulations "in reducing and possibly eliminating these accidents in the future" and in determining whether additional legislation is necessary.

**Aviation safety.** The President signed the federal airport amendments bill, H. R. 8102, into law as P. L. 87-225, extending the act, and authorizing \$75 million per year for three years in federal matching grants for airport construction and modernization. The new law authorizes FAA to refuse approval of projects that do not include landing aids it has determined to be necessary for safety; it raises the federal grant from 50 per cent to 75 per cent; and it limits the use of federal funds to the construction of buildings directly related to the safety of persons at the airport. In signing the bill, the President called the airport construction program "vital" to aviation safety. The President directed the FAA "to establish priorities among projects based on safety considerations and to develop a classification system for civil airports based on suitability for safe use by various kinds of traffic as a part of the national system.

A presidential task force, "Project

Horizon," issued a report on aviation goals which included, among other recommendations, a proposal for a "massive technical attack" on problems of noise, landing aids, and weather forecasting.

H. R. 7934 became law as P. L. 87-212, authorizing emergency payments for injuries or property damages due to aircraft or missile accidents.


An Administration proposal to establish a Federal Aviation Service within FAA was introduced by the chairman of the respective Senate and House Committees: S. 2599, and H. R. 9415. The proposed service is intended to assure uninterrupted military and civilian air traffic control and other essential services in time of war or emergency involving national defense through the creation of a special professional air traffic control career service which the President could transfer to military status in time of war or similar emergency. The chairman of the Senate's aviation subcommittee called the bill "another important milestone on our way to safety in the air."

FAA issued air traffic control rules which establish, for the first time, national standards for conducting flight operations in and around all controlled airports in the nation. According to FAA, these rules "are aimed at flight safety and aircraft noise reduction in airport communities." Safety would be advanced "primarily by a limitation in airspeeds and a requirement for two-way radio communication at all airports served by federally-operated towers, . . . and also by generally prohibiting enroute flight through 'airport traffic area,' established for all controlled airports." FAA announced it is also drafting uniform standard traffic pattern procedures for most uncontrolled airports.

CAB announced proposed amendments to its rules of legal practice in Air Safety Proceedings, in order to delegate to hearing examiners the board's function of making decisions on the merits. Under the proposed procedure, the hearing examiner would make an initial decision, from which no automatic appeal lies to

CIRCLE 88 ON READER CARD

**Now! SAW SAFELY AND SEE!**



**Eliminate All Saw Hazards With Brett-Guard**  
(the new visual safety tool)

For all circular saws

**NEW!** A versatile combination visual circular saw guard and saw fixture—uniting the ultimate in precision-designed tools for efficient guiding with the maximum in 100% safe guarding—has recently been introduced and marketed by the Brett-Guard Company to prevent saw injuries. This See-Through Saw Guard made of 1/2 in. thick transparent plastic protects users of table saws during all operations. The unique safety device may be locked in a variety of operating positions to prevent physical contact with the blade and eliminate flying chips. Simple to set up . . . economical for both large and small jobs . . . so safe, that it's being used in vocational schools for the blind . . . made of transparent PLEXIGLAS that lets you see what you saw . . . fully adjustable for all those impossible-to-guard cuts . . . fitting all circular table-type "rip" saws for 6" to 22" blades . . . protects operators where no other saw guard will function!

SHOP TESTED—APPROVED BY SAFETY ENGINEERS AND GOVERNMENT AGENCIES NATION WIDE.

- **FREE 30 DAY TRIAL!** Send blade diameter and make of power saws.
- **16MM NEW SAW SAFETY-EDUCATION, DEMONSTRATION SOUND FILM!** Available free loan

**WRITE TODAY FOR DETAILS**  
PATENTED MADE EXCLUSIVELY BY

**BRETT-GUARD CORP.**  
ENGLEWOOD, N. J.

## CAR THEFT

The Film on J. D.  
EVERY YOUTH  
and EVERY ADULT  
MUST SEE!

### ACCLAIMED:

"One of the BEST"  
by New York State  
Youth Commission

### CERTIFIED:

"For OFFICIAL USE"  
by National Automobile  
Theft Bureau

Running Time — 15 Minutes  
16mm B & W Sound Print . . \$65.00  
6 or more, each . . \$50.00  
Rental only \$6.50 for 1-3 days

Send Orders or Requests for  
Previews-for-Purchase to:

**AMERICAN FILM PRODUCERS**

Dept. CT-2  
1600 Broadway, New York 19, N.Y. PL 7-5915

CIRCLE 89 ON READER CARD



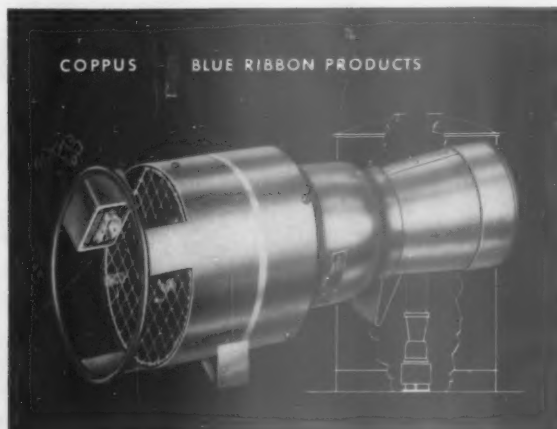
**TRIPLE-RESISTANT, MULTI-PURPOSE INDUSTRIAL GLOVE —**  
OF NITRILE RUBBER

The new Nygran work glove can solve your hand safety problems. The abrasion resistance of plastic . . . the cut resistance of neoprene . . . and superior chemical resistance, all in one glove. Reduce inventories . . . reduce costs.

For complete information and a sample pair, write on your letterhead to:

**THE GRANET CORP.**

25 LORING DRIVE, FRAMINGHAM, MASSACHUSETTS



**COPPUS "Blue Ribbon" Ventilator-Blowers** are portable and easily adaptable . . . for supplying fresh air or discharging foul air or fumes. Mail coupon below for facts.

**COPPUS ENGINEERING CORP.**

131 Park Avenue, Worcester 10, Mass.

- |   |               |
|---|---------------|
| <input type="checkbox"/> in tanks, tank cars  | Name .....    |
| <input type="checkbox"/> in underground manholes  | Company ..... |
| <input type="checkbox"/> for exhausting welding fumes   | Address ..... |
| <input type="checkbox"/> on boiler repair jobs  | City .....    |
| <input type="checkbox"/> for general man cooling  |               |
| <input type="checkbox"/> to stir up stagnant air wherever men are working or material is drying |               |

**COPPUS  
BLOWERS**

CIRCLE 69 ON READER CARD

the board. However, the board has discretion to review such initial decisions either on its own motion or on petition for review, where two board members vote for such review.

AEC issued a proposed rule-making notice to authorize a general license for possession and use of self-luminous aviation safety devices containing not more than four curies of tritium. "These devices," said AEC, "will substantially increase safety of passengers in the event of an emergency by clearly indicating emergency exists and emergency controls even though the electrical system of the aircraft has completely failed." With tritium there is said to be no external dosage to individuals in the vicinity of the device. FAA proposed amending its regulations to require an independent source of illuminating passenger emergency exit markings in daytime as well as nighttime.

FAA announced plans to recodify its safety rules "to meet the needs of modern aviation," through simplification and combination of all safety rules into a single form.

**Marine Safety.** The Coast Guard issued its final amended vessel inspection regulations dealing with marine and electrical engineering; tank vessels; fire fighting equipment or fire prevention; lifesaving appliances (in part); and construction and inspection. It also issued its vessel inspection rules relating to smoke detection systems for passenger vessels, effective for installations contracted for on or after January 1, 1962.

**United States Public Health Service.** The appropriation voted by the Congress, and approved by the President, for the U. S. Public Health Service in the area of safety and accident prevention was substantially greater than that requested by the Administration's budget which itself was an increase over the preceding year. The final vote provided the following funds to the Public Health Service: \$3,618,000 for accident prevention; \$8,800,000 for air pollution control; \$50,000,000 for water pollution control; \$3,981,000 for occupational health; and \$10,647,000 for radiological health activities.

## Indirect Approach

— From page 26

ployees' horizons." This feature does not need much elaboration except to say that business today is increasingly concerned about the business climate in which it must operate. Employees, being an important part of the community, play a significant role in the election of public officials, who in turn set up taxes and regulations that directly affect the companies for which they work. Through education the employee should be able to see more clearly the direct relationship between business climate in his community and his own personal welfare.

## Voluntary Pickup Has Value

The voluntary pickup feature, of course, has much value. No one tells the employee that he has to pick up literature. No one says that he has to take it home and read it. But perhaps this is what makes it appealing and why it is picked up, taken home, and believed in when read. Most racks are empty soon after booklets are put in. The usual procedure is to put out only enough booklets to cover 50 to 80 per cent of the total number of employees. In many instances, employees who find themselves too far from the rack location deputize friends closer to the source of supply to pick up booklets for them. Scarcity has a high degree of effectiveness anywhere. There are, of course, occasional complaints from the employee who did not get a booklet, but it is customary in many companies for the administrator to keep a few extra booklets in his office for the employees who take the trouble to ask for copies.

## Depth Communication

An ordinary employee communication pitfall is "one-shot communication." An example would be the publishing of an article in the company magazine or putting up a single poster on the bulletin board and then relaxing happily in the false belief that employees know all about the subject and that it need not be taken up again for several months, if ever again. Such an article or bulletin may have been exceedingly well written and comprehensive in



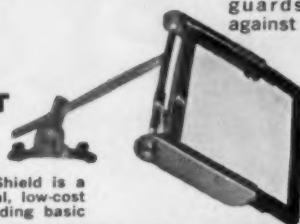
## JUNKIN ELECTRO-LOCK SHIELD

**MAXIMUM  
visibility...  
MAXIMUM  
protection!**

The Junkin Electro-Lock Shield permits the operator to see clearly the work he is performing and at the same time protects him from severe injury or eye damage. Interlocking power and light circuits will not permit the machine to operate unless the shatter-proof Junkin Electro-Lock Shield is in complete protective position. This feature guards unthinking operators against mishap.

## Junkin SAF-SIGHT SHIELD

The Saf-Sight Shield is a simple, practical, low-cost means of providing basic protection.



Write for  
**FREE BULLETIN**

Canadian Distributor:  
Levitt Safety Ltd.,  
Toronto



**JUNKIN SAFETY APPLIANCES**  
3121 Millers Lane, Louisville 16, Ky.



## FOOT-TOE-LEG

### Protection by "Sankey"

(left) Improved FOOT GUARD  
(Style #200 illustrated)

**FOOT GUARDS** consist essentially of a metal shield to be worn over the shoe whenever the foot is in danger of being either crushed or cut. The metal shield is designed to furnish a maximum amount of protection to the entire foot—not merely to the toes alone, but also to the instep—against hazards from falling, rolling or flying objects, or from accidental tool blows.

## TOE GUARD ➤

fills a demand for toe protection in occupations where hazards injurious to toes exist. They fit any shoe, afford maximum toe protection, and like the foot guards do not encase the toe to the discomfort of the worker. (Style #702 illustrated.)



## Fibre Shin & Knee Shin Guards

are formed to the contour of the leg, are light weight, comfortable to wear, allow absolute freedom of leg motion and provide the utmost in protection. Fibre shin guard (right) style #300. Fibre knee-shin guard (far right) style #310.

For more information write today

**ELLWOOD SAFETY APPLIANCE CO.**  
225 SIXTH ST.—NSC ELLWOOD CITY, PA.





# You're all wet... AND SAFE!

## in a HAWS Emergency Drench Shower.

Burning, corrosive, caustic contamination can inflict injuries more dangerous than blazing clothing! Contamination by acids, chemicals, volatile fuels, radioactive elements, etc., must be instantly countered by first aid. Immediate drenching with clear water is the first precaution against permanent injury. HAWS leads in design and production of Emergency Drench Showers! Ask for our complete catalog.



Model 8590  
Multiple nozzle shower drenches victim from all angles.

**HAWS**

**DRENCH SHOWERS**

Since 1909

a product of HAWS DRINKING FAUCET COMPANY 1443 Fourth St., Berkeley 10, Calif.

## NEW Geerpres GRADUATED BUCKETS



Fast, easy, accurate mixing of mopping solutions, using large embossed numerals and reinforcing, gallon-indicating corrugations, is the newest improvement in Geerpres mopping buckets. Available in 4-, 8- and 11-gallon sizes with choice of single, twin or "Convertible" models.

Ask your Geerpres jobber or write today for free bulletin.

**GEERPRES WRINGER, INC.**

P.O. BOX 659,  
MUSKEGON, MICHIGAN

every detail, but people do not always read or understand all well-written, comprehensive articles in company communications or any other place.

Employee education is a job which can't be accomplished through one supervisory conference, one article in the company magazine or one notice on the bulletin board. Like most advertising campaigns, it takes many shots at the same target to accomplish the desired result.

### Problems and Pitfalls

Few things are without some disadvantages, pitfalls, and problems.

There is always the possibility of reading on the job, but on the whole there have been few such complaints.

One cannot overlook the chore of purchasing booklets, editing them, and seeing that they are distributed and the racks kept neat and tidy. Most programs are successful proportionate to the amount of time and effort put into their administration. A sloppy rack with a poor selection of booklets can be no more successful than a sloppily-run cafeteria, plant publication, or anything else.

It is difficult to estimate the future of this medium, but its possibilities are both interesting and challenging. In the history of employee communication this is a first major step of communicating via the third person. Perhaps the third person may be a better teacher after all. It could be that the old fashioned direct employer-to-employee communication is too difficult a route. Perhaps the employer is too close to his employee to be an effective teacher.

One thing should always be remembered. No company should go into such a program with delusions of what it will do in rapidly changing and influencing employee opinion. This is a long-range job that may sometimes seem almost impossible. Overnight changes in attitude should not be expected. Management should not constantly attempt to evaluate the program or expect it to do a complete communication job by itself. It should be accepted for what it is — another communication tool, which when used with others, will assist in the achievement of over-all communication objectives. It should by no means be considered as a substitute for other communications tools.



## Man with a Mission

— From page 33

the Continental and Commercial National Bank Building in Chicago.

Although the roster consisted of only three persons the *Chicago Tribune* in a front page story October 17 predicted with uncanny accuracy that the office would become "one of the most important in the world."

The story went on to prophesy that from this vantage point would come "... a great national campaign which may easily result in the saving of at least 10,000 lives a year. The work it is to undertake should be the biggest piece of news in this generation."

The immediate assets of the fledgling Council consisted of 40 members and membership fees promised of about \$1,400. The small office boasted a desk, two chairs and an empty filing cabinet. (Someone was going to have to sit on the floor.)

Although Campbell pitched in and did all he could, he still had his steel job. Success or failure would rest largely on Canadian-born Will Cameron.

He was the Council's membership chairman, dues collector, publication editor, platform speaker, and program planner all rolled into one.

In the years leading up to World War I there were two notable evangelists on the road: Will Cameron and Billy Sunday. While Billy had a large staff to help fight the devil, Will was the staff going forth like St. George to slay the dragon of accidents.

If it all sounds easy now, it was heartbreaking then — the days and nights on rattlers and in cheap hotels, the visits to dingy offices where managers laughed at the idea of safety, the employees who dared hazards to lay them low, the discouraging absence of material and manpower to launch educational drives. Yet nothing deterred Cameron from his rounds. Wherever he lit, sparks flew.

Writing last May to Roy G. Benson, manager of the Council's In-

CIRCLE 74 ON READER CARD

**PRACTICAL DAN SAYS:**  
 "Don't be a parts washer!  
 Get one — get a Kleeeflo!"

**SAFE! PARTS WASHERS**

**Kleeeflo**

**NEW ... and a great performer tool!**

**Kleeeflo Jet 60 AUTOMATIC CLEANMASTER**

ONE OF 9 Kleeeflo AUTOMATICS; — specialized equipment for every parts cleaning job! Cleans like "60"! Faster! SAFER! Easier.

- JET "60" patented pump circulates solvent a gallon per second!
- No air connection required ... Jet Action does it!
- 3 cleaning actions in 2 cleaning areas!
- Continuous 2-way filtration!

A "MUST" FOR TRANSMISSION WORK!

**NEW All-Purpose Super CARBUSOL**  
 Cleans carburetors, transmission parts, carbonized parts ... easier, faster!

**Hi-T DEGREASOL**  
 A safe, NON-TOXIC, rapid cleaning, quick-drying fluid used cold. Removes grease, oil, sludge, dirt from parts!

Sold thru the Jobber

**"ONLY CLEANLINESS" PERMITS PRECISION**

**THE Kleeeflo COMPANY**  
 Division of Practical Mfg. Co.

SALES WEST OF THE MISSISSIPPI  
 1009 N. Hill St.  
 Hopkins, Minn.

SALES EAST OF THE MISSISSIPPI  
 250 W. 57th St.  
 New York 19, N.Y.

Write for literature

**NOW...**

**SAMPLE AIR FASTER, MORE ACCURATELY, PORTABLY**

*Accurate to 1/100 micron!*

INDISPENSABLE for series or unit air sampling — indoors or out. Portable, yet stands up to heaviest usage. Weighs only 10 lbs. Comes equipped with standard 4" filter holder. Special adapters available for 6" x 9"; 8" x 10"; 12" x 12" and others.

Staplex Air Samplers are widely used to solve the many diverse, exacting needs of leading industries. Also for industrial hygiene and health departments, nuclear and missile fields; manufacture and processing of beryllium products, radioactive materials and all other industrial dusts and air pollutants.

Let us help you solve your air sampling problems as we have for thousands of users. Send for details.

### THE STAPLEX COMPANY

771 FIFTH AVENUE • BROOKLYN 32, N. Y.

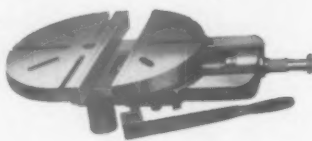
World's Largest Manufacturer of High Volume Air Samplers

CIRCLE 75 ON READER CARD



## USE THE MODERN Safety Drill Table

Saves fingers! Saves time! Replace your present drill table with the Modern Safety Drill Table—then drop in the work and drill. Eliminates dangerous, hand held, small jobs. Handles odd, irregular shapes and sizes without V-blocks, clamps or parallels. Sizes for every need, with diameters from 8" to 27½". Guaranteed to save its cost in labor alone in 6 months. Write for literature.



**FREE TRIAL OFFER**  
Write for details!

105

**MODERN MACHINE TOOL CO.**

2005 LOSEY STREET

JACKSON, MICHIGAN

## Cut the COST of Hand and Foot Protection

with 2 new safety products



disposable plastic work gloves



disposable plastic work boots

**they cost but pennies apiece!**

**handgards** are close fitting, highly flexible gloves, made of a tough film of acid resistant plastic. Worker enjoys maximum manual dexterity and finger-tip sensitivity. The glove molds to and never obstructs the movement of the hand...

Available in 3 sizes, 3 weights, 3 lengths.

Handgards protect your hands, or the product from hand contamination.

Extensively used in hospitals, manufacturing plants, chemical plants, food plants, laboratories, white rooms, restaurants, etc.

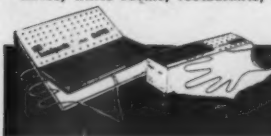
**footgards** are durable disposable plastic shoe covers.

Available in industrial and heavy industrial weight, and in three sizes to fit any shoe.

Footgards are solving major problems right now in missile plants, white rooms, dust free environments, guest and executive plant inspections, in hatcheries and laboratories to prevent the spread of disease, atomic research centers, etc.

Both **handgards** and **footgards** are conveniently packaged on white tissue, in rolls or flat boxes of 100 gloves.

Available from safety and glove jobbers. If your jobber does not have them in stock, contact:



**plasticsmith, inc.**

P.O. Box 1071, Pittsburg, Cal.

Sales Office: 125 Old Orchard Arcade, Skokie, Illinois

CIRCLE 77 ON READER CARD

dustrial Department, Will Cameron's wife Mabel declared: "As we have been married 58 years I certainly shared in the agony (and fun) of getting the NSC started.

"In fact, I think the children went without shoes for awhile until Will could beg or borrow enough money to pay his own salary! It was a dream in those days — a real adventure into space — and it took courage, vision, and sacrifice to carry on."

There was one time, for instance, when Cameron tried "to collect money from a bank to keep the Council going." He describes it: "I went to the bank and asked for a loan. The man there was very nice, but he kept insisting on collateral. What did I have? I told him all I had was a wife and four children; would they do? He gave me the loan."

Cameron smiled gently as he illuminated those early days. There were never enough hours in a day.

"Often I would get up at three o'clock in the morning, not because I couldn't sleep but because there was so much work to do," he said. "I dictated until breakfast. Then I would put the wax cylinders into my valise and carry them into the office. Oh, I could keep stenographers busy all right."

That was only the administrative part of his job.

"Every Monday we'd round up all the material we had collected on safety during the week and mail it to the members. Oh, we would run across a good poster, or blueprints showing how a machine could be made safer, or a talk someone had made. That was our service. That kept us together. And it helped us grow."

The Council's leaders had foresight. They envisioned an organization that would ultimately reach into all fields of risk — touching the man at work, the wife at home, the family on the highway, the child at school or play. For instance:

- In 1914 after a year of being called the National Industrial

Safety Council, the word *Industrial* was dropped as too limiting.

- In 1915 a Public Safety Section of the Council was established, official recognition that the automobile was here to stay and would bear watching.

- In 1919 an Engineering Section was formed to enlist the support of various engineering groups and develop safety standards. Also a Safety Education Section set out to educate grade school children on how to avoid accidents.

- In 1942 a Home Safety Division came along. And that year Will Cameron retired, to be succeeded by Ned H. Dearborn, founder of New York University's famed Center for Safety Education.

In 1953, in larger quarters at Chicago's 425 North Michigan Avenue, the Council was granted a federal charter by the U. S. Congress, charging it with the responsibility to "arouse and maintain the interest of people in safety and accident prevention, and to encourage the adoption and institution of safety methods."

Today the Council's headquarters staff has grown to about 370 — engineers, technicians, editors, writers and specialists in all phases of accident prevention. They produce a dozen magazines, 36 newsletters of special interest and, annually, about 240 new posters — distributed throughout the world. The annual budget exceeds \$5 million.

By now Will Cameron, the man who had given wing to so many ideas, was ready to go home. He turned to shake hands and thank us for a luncheon he had scarcely touched. His grip was firm. And his gaze was steady, except that he wasn't looking at us.

He was looking at a construction worker cutting through a steel panel with a saber saw. His expression had darkened disapprovingly, for the man was not wearing safety glasses. It was obvious that Will Cameron still had the safety of American workers in his mind and heart. You don't forget something like that when it's been your whole life.



**DANGER**  
**HIGH VOLTAGE**

**"Is your Safety Program complete?"**

To warn workers, select the proper READY MADE safety signs from thousands of proven wordings.

Send for NEW 4-color catalog today!

**Ready Made**

**SIGNS FOR SAFETY**



**CAUTION**  
**HARD HAT AREA**

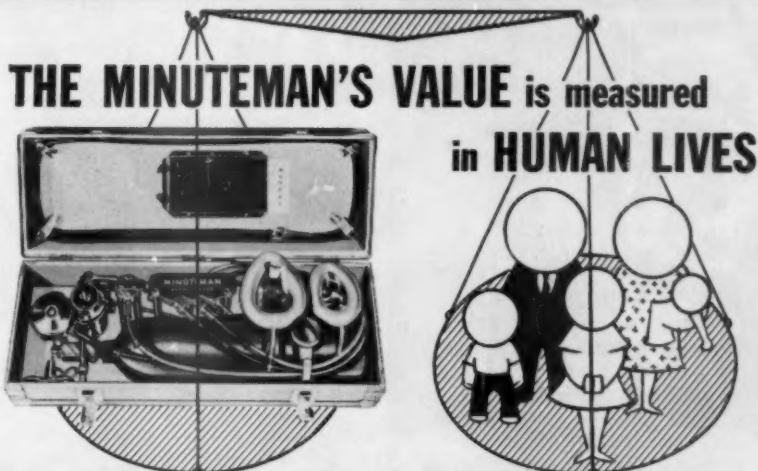
**BE CAREFUL**  
**NO SMOKING**  
**A FIRE TODAY**  
**NO JOB TOMORROW**

**SAFETY FIRST**  
**WEAR EYE SHIELDS WHEN GRINDING**

**Ready Made SIGN CO. INC.**

115 WORTH STREET,  
NEW YORK 13, N. Y.

Dept. NS-11



The MINUTEMAN is priceless in terms of the function it performs—the saving of human lives. It is a quality instrument combining resuscitator, inhalator and aspirator in one compact unit, weighing under 30 pounds with tank. In respiratory emergencies such as drownings, electric shock, gas poisoning, suffocation and heart attacks, the STEPHENSON MINUTEMAN RESUSCITATOR re-

stores the breath of life. Operating pressures are easily adjusted from Infant to Adult. An extension hose can be used for victims in inaccessible locations. You need a MINUTEMAN—better get it now—for you may have to use it sooner than you think. Send coupon for further information.

**SEND COUPON FOR FULL INFORMATION**



In Canada — Wilson & Cousins, Toronto

STEPHENSON CORPORATION, Red Bank, New Jersey

- ☐ Please send Minuteman Folder G-5  
☐ Please arrange for demonstration

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_



# BLOCK THAT WHEEL



... and  
**PREVENT  
THIS!**

Safety Wheel Blocks are light, strong, tough because they're **STEEL CASTINGS**. Hold heavy trucks, trailers with ease. Prevent accidents caused by vehicle moving away from dock while loading, unloading. Easy to handle, store. Practically indestructible. Stocked for Immediate Delivery

**\$12.35 ea.**

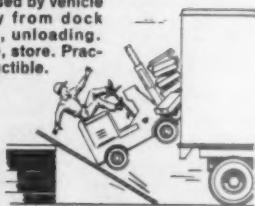
1-5 Blocks

**\$11.45 ea.**

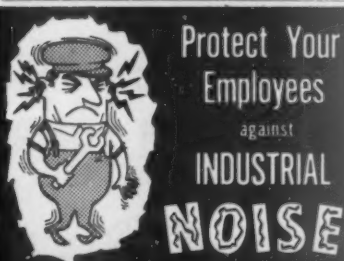
6 or more

F.O.B.  
Hammond, Ind.

Order now for immediate delivery!  
Write for illustrated catalog.



**CALUMET STEEL CASTINGS CORP.**  
1628 SUMMER STREET • HAMMOND, INDIANA



Protect Your  
Employees  
against  
**INDUSTRIAL  
NOISE**

USE

**FLENTS® Anti-Noise  
EAR STOPPLES**

ENDORSED BY LIABILITY  
INSURANCE COMPANIES

Gives Maximum Protection!  
Safeguards Against Compensation Claims!

1. Provides airtight seal against disturbing noise, yet permits normal conversation.
2. No sizes or fittings to bother with. Flents are soft, pliable and mold easily to fit all ear canals.
3. LOW COST make Flents disposable after use. A vital health factor.
4. Preferred by workers for comfort.
5. Proven superior by independent tests!
6. Gov't endorsed, standard supply for Air Force personnel.

Send for Free testing samples.  
Ask for "INDUSTRIAL NOISE" booklet

USED BY 'BLUE CHIP' INDUSTRIAL FIRMS  
OVER 30 YEARS

**FLENTS**

PRODUCTS COMPANY, Inc.  
103 Park Ave. New York 17, N. Y.

CIRCLE 81 ON READER CARD

## Accidents Love People

ACCIDENTS love people.

This is easy to deduce, because a respectable accident won't even show unless its favorite type people make the scene.

People aren't accident prone. Accidents are people prone. And they are discriminating about the type of folks they take up with.

Ever watch an accident case a bunch of folks?

Tripping and slipping accidents get all shook up over folks who won't watch where they're going.

Rear-end accidents have a purple passion for people who drive too fast for conditions and follow too close.

Amputations select the longhair types who like to match wits with unguarded machines.

Poisonings flip over the devil-may-care souls who don't care what they breathe, drink, eat, or absorb, and are particularly attracted to children.

Electrocutions blow their fuses over folks who get a charge out of working on live circuits and ungrounded equipment.

Drownings get moist over folks who don't think they need a working life vest 'cause they know how to swim.

Head-on collisions get a big bang out of folks who pass others whether they can see the road ahead or not.

Cuts and slivers want to hold hands that aren't choosy about where and how they go poking around.

Foreign objects eyeball those who can't stand face shields between themselves and the work.

Strains and sprains latch on to those sports who don't know their own strength.

Burns get all steamed up over hotshots who like to sneak smokes around flammables.

Falls go overboard for acrobats who work on elevated surfaces with nothing to grab or hang onto.

Contusions get a buzz out of pinching and manhandling those who get in a tight spot or in the way.

Wonder what kinda accident is casing you—with dishonorable intentions?

ROBERT D. GIDEL

## Dry Up The Office Party

The National Safety Council again asks all employers to dry up the Christmas office party.

Statistics show that most accidents during the holiday occur in the early hours of the holiday period, and many can be traced back to the alcoholic punch bowl.

"While not legally responsible for employees after they leave the office or plant, the employer is certainly morally responsible for mishaps occurring because of a company-

sponsored event," says George C. Stewart, NSC executive vice president.

When liquor is served, employers or hosts are urged to assume the responsibility of providing safe transportation home for their guests.

A kit containing materials and ideas for conducting a Christmas safety campaign is available by writing: Christmas Campaign Headquarters, National Safety Council, 425 N. Michigan Ave., Chicago 11.



# NEW

## SAFETY EQUIPMENT



Products listed in this section have been reviewed by a committee of the Industrial Department of the National Safety Council. Only those which comply with the advertising policy of the National Safety Council are accepted. However, the information is based on literature from the manufacturer, and the Council does not accept responsibility for statements or claims made herein. Nor does the listing of a product in this section imply endorsement by the National Safety Council.



**Helmet  
Features  
Neoprene  
Lens Holder**

A welding helmet made by the CHICAGO EYE SHIELD CO., 2727 W. Roscoe St., Chicago 18, Ill., has a moulded neoprene lens retainer that mounts on the helmet without fasteners of any type. This, in combination with new delrin pivot assemblies and nylon chin rest bolts minimizes electrical conductivity between the exterior and interior of the helmet. The helmet shell is fiber glass.

The retainer accommodates the popular 4½ by 5¼ in. sizes lenses. Wearers of bi-focal glasses benefit from the increased downward viewing area. A choice of conventional glass plates or Cesco Plasti-Weld (plastic) filters may be used. With plastic filter the helmet is said to be 7 oz. lighter than helmets with glass lenses and metal retainers of the same size. The rubber retainer acts as a shock absorber to prevent the breakage of lenses which might result if the helmet is dropped. The retainer also provides considerably less heat transfer from exterior of helmet than do metal retainers. Unlike metal, the rubber retainer will not dent or bend, thus preventing the possibility of light leakage. Weld spatter has no effect on this retainer. Lens retention is accomplished without the use of springs or other devices not an integral part of the retainer. No tools are needed for changing lenses. The nylon headgear features a broad cross strap adjustable for both height and position, and replaceable foam sweatbands on headband and cross strap.

(Item 150)

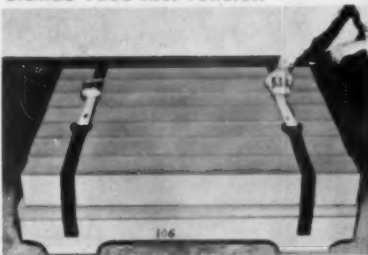
### Detergent Developed For Heavy Equipment Wash

Aerowash, a multi-purpose, water-base, liquid detergent for removing heavy greases and oily soils from machinery and equipment, has been developed by WYANDOTTE CHEMICALS, J. B. Ford Div.

Reported to be non-toxic, non-flammable, and mild on the skin, it does not cause reduction in reflectance according to the manufacturer.

(Item 151)

### Metal-mesh Strapping Stands 1000 lbs. Tension



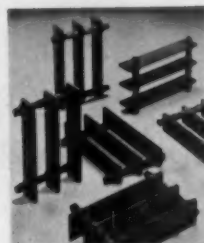
The CAMBRIDGE WIRE CLOTH CO., Cambridge, Md., has introduced a metal-mesh strapping for use in binding palletized materials.

Called Gripper flexible metal-mesh strapping, the assembly is said to offer ease of rigging and unhitching, plus load protection.

The assembly consists of a pair of metal-mesh strapping sections with plate attachments at one end for bolting to a pallet. On one of the free ends there is a handle with a piece of nylon strapping attached. To bind material in place on the pallet, the nylon strap is inserted into the ratchet tightening buckle, and tension is applied by moving the tightening buckle handle back and forth by hand. In this manner, it is possible to apply as much as 1000 lbs. tension on the assembly. Unhitching is effected by a release button on the ratchet.

To protect the nylon strap from being cut by the palletized material a piece of metal-mesh strapping, attached to the nylon strap handle, lies in place between the nylon strap and the material. The design can be modified to meet special requirements. For example, to eliminate having the assembly permanently attached to a pallet, the end pieces can be made with hook-type fittings, which would grapple the edges of the pallet. The unit can also be made in a single piece and wrapped around the load and pallet together.

(Item 152)



**Ceramic  
Coating  
For Grating  
Developed**

A ceramic coating for steel industrial grating has been developed by ALLIED MATERIAL SUPPLY CO. Pittsburgh, Pa. Fused to steel grating at furnace temperatures of 1600°F, the coating provides a matte-type finish for a non-skid surface. The coating is reported to be of the same general class as that used for ceramic-covered mufflers in the automotive industry.

The fashion of refractories, silicates and metallic oxides to the steel core is reported to eliminate under-travel or separation between the coating and the core. If mechanical damage occurs, extending into the steel core, oxidation is confined to the point of damage, with no lateral creep.

(Item 153)



### GETS-A-LITE GUARD and GUIDE

Quickly and Easily Installed  
by Anyone—No  
Tools Needed!

- Simply slip GETS-A-LITE GUARD AND GUIDE over the fixture, as illustrated.
- Made of indestructible spring steel wire. Nothing to break, get out of order or replace. Will last indefinitely.
- Once installed, GETS-A-LITE GUARD AND GUIDE is NEVER removed.
- Nothing to unlock, fuss with or lock, when changing lamps.
- GETS-A-LITE GUARD AND GUIDE actually steers lamp into socket enabling maintenance man to change lamp in 10 seconds!
- Available for 40 watt and 100 watt fluorescent lamps.

GETS-A-LITE CO. — Dept. NSN 1161  
3865 N. Milwaukee Ave., Chicago 41, Ill.

## Where HEAT is A PROBLEM

... Fyrepel has the answers. We are the largest fabricators of aluminized glass cloth heat protective clothing and equipment. Our staff of experts in this field stand ready to serve you in working out your heat problems.

## TOUCH-UP KIT

Here is an innovation that adds considerable life and efficiency to your aluminized clothing. We offer a proven aerosol solution of "touch up" aluminum that when sprayed ever so lightly on aluminized garments will cover worn spots. Use on fire and furnace entry clothing—proximity suits—sleeves—aprons—gloves—boots.

Write for catalog and details on complete line of fire and heat protective equipment.



FYREPEL PRODUCTS INC.  
NEWARK, O.



### Flags and Clothing Feature High Visibility

"Fire-Glo", vinyl coated nylon, fluorescent danger flags, vests and sleeves, have been developed by CHARLESTON RUBBER CO.

Their color is the same as that used by military aircraft for recognition purposes. The vinyl coating is flexible and can be cleaned with a mild detergent solution.

The flags are available in several styles: plain, with standard lettering or with special lettering, with staff or without; also with diagonal reinforcing, with wooden rod sewn in top and with reinforcing wire and center loop at top. The "Bulldog" flag clamp, with roughened neoprene coating on the jaws, is available with "Fire-Glo" flags.

(Item 154)

### Light Is Designed For Danger Areas



The Jetlite, a 110-volt light, manufactured by the BURTON MEDIC-EQUIPMENT CO., El Segundo, Calif. is designed for safe trouble-shooting around volatile fluids and explosives. The assembly—the lamp, the 36-foot cord, and transformer—is sealed in vulcanized rubber. It produces 65,000 candlepower illumination. The bulb is protected by 3/16 in. tempered safety-glass plate.

An energy level of one millimicrojoule from the measured source will actuate the indicator. The meter indicates whether the charge is negative or positive. The operator holds the instrument in one hand like a gun and touches its snub nose to the object to be tested. With his free hand, the operator touches the place to which the object is supposedly grounded or bonded. The button on the hand grip is squeezed and the meter is observed. If the indicator moves into the green region of the meter, the object under test is safe and is properly grounded or bonded. If the indicator moves into the red region, the object under test is unsafe and is not properly grounded or bonded. The position of the indicator when in the red region designates the polarity of the charge accumulation on the object.

(Item 155)

### Electronic Device Measures Charge Differential



An electronic instrument for use in detecting the static charge differential that exists between improperly grounded or bonded objects is being produced by B. K. SWEENEY MFG. Co., Denver. Designed as a safety device for use where flammable liquids are handled and stored, the model SWE-1125 Static Meter features a green-red, "go, no-go" dial face that tells whether or not the grounding or bonding connections in an area are good. The battery-powered instrument is voltage-operated and reads electrostatic charge, not resistance.

(Item 156)



Fabric is  
Lint-free

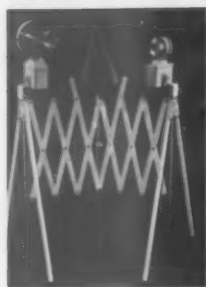
A new lint-free fabric — dacron and nylon warp knit Tricot — is being introduced in "Clean Room" apparel, by WORKLON, INC., New York City.

The Tricot garments are lightweight, yet opaque and the fabric actually permits the garments to "breathe."

The fabric resists soiling, does not ravel if torn or snagged, and has a wrinkle-resistant finish.

The garments are designed for use in sensitive areas where product contamination must be avoided. According to the company, they find their best application in the electronics industry, semi-conductor field, missile and nuclear operations.

(Item 157)



**Trailer  
Used for  
Emergency  
Barricade**

PETERSON BROS., INC., Jacksonville, Fla., have announced a portable emergency-utility barricade. The unit is called the Gator Guard barricade, and it expands from its folded dimension of 11¾ in. to a full 9ft. 7 in. and stands 39½ in. high.

The unit features "cornering" ability. The two scissoring sections can be pivoted to a 90 degree angle around a vertical stabilizing rod located in the center of the barricade. This feature forms a two-sided barricade with 4 ft., 9½ in. sides. Two units erected together provide an enclosure of approximately 23 sq. ft.

Light reflecting beads on the scissoring sections provide visibility after dark. Cadmium plated, fasteners, plus cadmium plated moving parts, are used to reduce rust corrosion and binding. Accessory flags and flashing

battery powered lamps are available at extra cost, with mounting brackets provided as integral parts of the unit's design.

(Item 158)

### **Magnaflux Unit Checks And Demagnetizes Aircraft**

Aircraft maintenance inspection for cracks and demagnetization of critical airframe or engine steel components can be performed with a mobile magnetic particle test unit developed by MAGNAFLUX CORP., Chicago. The equipment, designated Type KRQS-6, provides 6,000 amps full wave d.c. Automatic demagnetization is accomplished by means of a built-in motorized 30-point switch and circuits.

The power pack is mounted on an 8 ft 4 in. long, 57½ in. wide trailer frame. Spring suspension and 16 in. pneumatic tires permit the unit to be towed safely to and from the aircraft at a speed of 20 mph by means of a 34 in. A-frame tow bar. A 34 in. by 15 in. by 33 in. weatherproofed storage cabinet attached to the power pack provides space for magnetizing cables, prods, spray guns, magnetic particle materials, and a flame-re-



sistant, vinyl-coated canopy that covers the unit when not in use.

Safety features include stop-lock feet for wheels to prevent rolling, tie-down rings used during air transport, Aviation Yellow finish, and eight ¾ in. safety reflectors.

The KRQS-6 unit is built to operate from either 220 or 440 volt, 50/60 cycle, 3 phase current. Magnetizing cables can be equipped with prods for circular magnetization of parts or welds and are either wrapped or equipped with coils for longitudinal magnetization. An isolation transformer furnishes 110 volts for the control circuits and a convenience receptacle for operation of a powder blower, lights, or other auxiliary equipment.

(Item 181)



## **THE SOLUTION TO AN OLD INDUSTRIAL PROBLEM**

### *Contact Dermatitis*

SILCONEX (77% silicone) is the most universal skin ointment now available. It protects not only against water dissolved materials but also against solvents and oil-solvent-water-chemical mixtures. It resists exposure to strong acids and alkalis, oxidizing agents, salts and other chemicals whether in water or organic solution. It prevents initial sensitization by allergens. It is non-conducting and therefore useful in electronic operations. Simple to apply, one or two applications a day provide ample protection. It has an important place as the most universal weapon against contact dermatitis.

CLEREX & H-R CREAM SOLVENT PROTECTION protect the skin against organic solvents. They wash off with soap and water. CLEREX is a gel which forms a continuous, strong, elastic skin-adherent film which does not interfere with tactile sensation. The film is insoluble in all anhydrous organic solvents, oils and greases. It protects against the hydrocarbons (benzene, benzol, toluene, gasoline, varsol turpentine, kerosene, solvent naphtha), the chlorinated hydrocarbons, nitrites and the

polymerizable monomers (styrene, acrylonitrile, and unsaturated esters for producing polyester resins). Used in making and using paints, varnishes, plastics, polyester resin - fiber-glass compositions, lacquers, inks, and in metal degreasing using trichlorethylene. H-R CREAM is a modification of CLEREX with a vanishing cream base. It is highly resistant to the materials listed under CLEREX. It is useful where protection must be applied to the face and arms as well as the hands. It has proven highly effective against phenolic vapors, creosote, extreme exposure to coolants, tars, rubber-asphalt and rubber-lar mixtures, petroleum oils, plastic and adhesive compositions.

VEREX—a general purpose barrier cream widely used in both the office and the plant, in the mechanical, textile, chemical, rubber and process industries—protecting the skin against ordinary exposure to coolants, dirt, grease, inks, cement, sulphur, rust, carbon black, etc. Protects against contact with poison ivy. Soothing to the skin. Washes off with soap and water.

## **HYGIENE RESEARCH INC.**

684 Broadway, New York 12, N.Y.

Literature and samples on request. Write Dept. NS-1061

CIRCLE 97 ON READER CARD



MITTS, too



For HOT or COLD

## EMALFON® SINGER'S patented (Patent No. 2,650,365) INSULATED GLOVE

UNIQUE CONSTRUCTION. Outer layer of terry cloth treated to make it flame-resistant; inner layer of all-wool for added insulation; third layer (next to skin) of soft, fleeced cotton. This combination gives flexibility and insures long wear.

FOR HOT JOBS that do not exceed 700° F. these gloves (or mitts) are ideal.

FOR COLD JOBS—handling dry cold materials, gas containers, etc. Excellent protection against frigid burns.

### NEW BIG CATALOG

Complete line of work gloves, welding gloves, safety clothing and portable welding screens. Send for it!



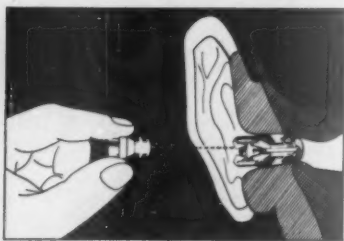
Ask your dealer or write us



Work gloves that "SING"

860 W. WEED ST.,  
CHICAGO 22, ILL.

## HARMFUL Effects of NOISE to The Ear Drums ELIMINATED by using Lee Sonic EAR-VALVS



IT TAKES ONLY 30 SECONDS TO PROVE this. WE GUARANTEE IT! These are NOT EAR PLUGS! They are scientifically developed sound controls that protect the eardrums WITHOUT interfering with NORMAL CONVERSATION OR HEALTHFUL AIR CIRCULATION.

PROVE-IT-YOURSELF. Try a pair for 30 days with no obligation to purchase. Send for trial pair on Company Letterhead.

**SIGMA ENGINEERING COMPANY**  
1608 Hillhurst Ave., Dept. F-3,  
Los Angeles 27, Cal.

CIRCLE 85 ON READER CARD

## Extinguishers Approved For Tri-Class Use



Tri-Class-ABC ten and twenty lb. portable extinguishers, U.L.-approved for use on all classes of fire have been introduced by WALTER KIDDE & Co., Inc., Belleville, N. J. They bear U.L. ratings of 2-A, 16-B:C and 3-A, 20-B:C respectively.

These portables feature one method of operation, one portable for use on any Class A, B, or C blaze and give a non-turbulent powder discharge. They are also approved by Factory Mutual Laboratories.

(Item 159)



Attachment  
Converts  
Lift Hooks

An attachment to the Thompson safety hook that converts existing lifting equipment to safety equipment is now being introduced by SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, NY.

The device consists of a swivel eye nut which is attached to a wide range of lifting devices without need for alterations or replacements. With the attachment, the hook can be used interchangeably on all existing machines of the same capacity. It may be used with mobil crane trucks, construction elevators, ship board winch rigging, conventional cranes, hoist derricks, winches, wall, pillar or gantry cranes as well as towing rigs and load tighteners.

Available in capacities from ¼ to 25 tons, the device features the

Thompson safety catch which locks at two points. The catch is constructed of cast bronze.

No hands are required to hook the load sling. The operator flips the sling onto the hook. The hook provides a full throat opening when needed and an 80% opening for normal use. When full throat is required, the operator swings the safety catch to the side with one hand, while using his other hand to guide the load and signal.

(Item 160)



Cold-water  
Cleaner

A cold-water cleaner developed for removal of greases, gums and oils, has been introduced by DAVIS EMERGENCY EQUIPMENT CO., Newark, N.J. Called PC-5, the cleaner is reported to be non-toxic upon inhalation, gives off no odor, is harmless to skin and clothing, and is non-flammable, requiring no fire permit for storage. The cleaner contains an anti-oxidant for protection of metal.

PC-5 is a concentrate designed to be cut 10 parts water to one part chemical for normal cleaning operations, and can be diluted with either fresh or salt water.

(Item 161)

## Ceiling Panel Protects Steel Bar Joists

A fire resistant ceiling panel capable of protecting structural steel joists from flame and intense heat for three hours has been developed by the ARMSTRONG CORK CO., Lancaster, Pa.

The mineral product, called Armstrong Fire Guard Nailing Panel, comes in panels approximately 2 ft. by 5 ft. in size and can be fastened to standard type nailing channels with annular ring nails. End joints are reinforced with steel bridging clips at each panel intersection.

The panel has been tested by Underwriter's Laboratories, Inc. The surface of the panel is a smooth primed paint finish.

(Item 162)



# Eye and Face Wash Fixture Uses Curtain of Aerated Water



An eye and face wash safety fixture for on-the-job first aid to persons injured by acid splashes, caustics, fumes or dust has been developed by SPEAKMAN CO., Wilmington, Del.

The unit is operated by depressing a large handle on the right side of the fixture. Twin water outlets flood the user's face with an 8 in. by 9 in. curtain of aerated water. Each of the outlets is equipped with three spray shields which form the water pattern.

The unit delivers water at a rate of 10 gallons per minute at 15 to 18 psi running pressure. Minimum operating pressure is 15 lb. flow pressure. Fixtures are available in three models: wall-mounted, pedestal-mounted, and a built-in work table model. The pedestal model can be equipped with a frost-proof valve for outdoor installations. All models may also be equipped with a hose and aerated eye wash outlet for administering to victims in the prone position.

The bowl is made of 300 series stainless steel and other exposed parts are chromium plated brass. Both outlets are equipped with individual volume controls. All specifications are designed to meet state and municipal codes.

(Item 163)

# Medical X-ray Gloves Provide Touch Sensitivity



"Rad-Bar" medical X-ray gloves, developed and tested by CHARLESTON RUBBER COMPANY, Charleston, S.C., offer new concept in manufacture and warranted protection for radiologists, roentgenologists and other users of X-ray equipment.

Made of lead-loaded, non-toxic DuPont neoprene, the gloves are manufactured by a multiple dip process. They have no seams, no stitched areas and they contain no fabric. The gloves

are contour shaped to fit the hand and have flared cuffs. Touch sensitivity and flexibility are built-in features.

Designed for a variety of medical, radiographic and fluoroscopic protection the flexibility and tactility of the gloves will be particularly useful in angiographic work. "Rad-Bar" gloves have a guaranteed minimum lead equivalent of 0.5 MM.

The homogenous opacity and uniform area density needed for full protection is sealed in by the permanently and evenly dispersed lead particles throughout the neoprene. There is no lead slumping, no migration and no

cold flow. The gloves are composed of several separate, precisely fitting, seamless plies of lead-loaded neoprene with air spaces between. There is no exposed lead. The inner and outer surfaces are of unleaded neoprene, so as to exclude contact with the inner portions which contain the lead particles.

The "Rad-Bar" five-finger glove comes in four hand sizes, including an extra small size for women. There is also a one-finger mitten. The gloves are red on the outside and black on the inside. Two pairs of absorbent, white cotton innerliners are furnished with each pair of gloves.

(Item 164)

## SAVE

✓ ACCIDENTS  
✓ WASTE  
✓ TIME  
✓ MONEY

ON EACH CLEANING  
WITH

## BOL' TABS®

*Germicide*

KILLS GERMS IN 30 SECONDS  
Twenty Times Faster Than Phenol

### BOL' TABS® TABLET BOWL CLEANER

Fast Dissolving - Self Mixing

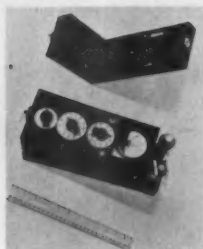
ELIMINATES ODORS  
Powerful - But Safe!  
Cost Control on Each Cleaning  
Removes Rust and Lime Film  
Safe on Porcelain Enamel  
Safe in Septic Tanks  
Ends Acid Accidents

REDUCES COSTS OF LIQUID ACIDS and POWDERS  
BOL TABS The "Tablet" Bowl Cleaner

THERE IS A DISTRIBUTOR IN YOUR CITY

## Horizon industries

400 Upper Midwest Bldg. - Minneapolis 1, Minnesota



**Sound Analyzer Weighs 4 lbs**

A sound analyzer weighing 4 lbs. has been announced by INDUSTRIAL ACOUSTICS Co., New York.

Called the "Sound Spectrometer," the compact instrument is a light-weight, portable sound level meter and octave band analyzer which meets all pertinent ASA specifications.

Octave band readings, overall sound levels, or A, B and C scale readings are obtained by setting two switches. Direct readings are made from one indicating meter.

The unit has a "built-in" battery check, electrical calibrator and acoustical calibrator. It is powered by three batteries which can be individually checked by setting a pointer and reading the meter. The batteries can be checked while in position for use.

The unit is enclosed in an impact-resistant case. The instrument comes equipped with a microphone, extension cord and calibrators.

(Item 165)



### Safety, mobility, plus free use of both hands!

In event of fall, SAF-T-CLIMB\* locks instantly and automatically. Worker can fall no more than 6 inches, even if he is unconscious. And worker can climb easily with both hands free to facilitate repair or inspection work.

SAF-T-CLIMB is easily and quickly installed on rung ladders, tower legs and peg ladders on wood or steel poles. Can also be curved to fit your requirements. Write for illustrated brochure on SAF-T-CLIMB.

\*Previously called "Notch-Lok"

**AIR SPACE DEVICES, INC.**  
**SAFETY TOWER LADDER DIVISION**

5428 N. Vineland, North Hollywood

CIRCLE 96 ON READER CARD



**Respirator Has Cyclocac Valve Seat**

MINE SAFETY APPLIANCES Co., has redesigned its Comfo respirator, to provide an improved peripheral face-piece seal. Approved by the U. S. Bureau of Mines, the half mask is also employed as a component part of similar dust, chemical cartridge, and air line respirators.

The seal — including an intumed lip and deep chin cup cushion supported by a four-point floating suspension system — provides for a greater range of facial shapes and sizes. The yoke-type suspension of the respirator distributes retention pressure more uniformly around face-piece periphery. It weighs 4.3 ounces and has a hycar rubber formulation.

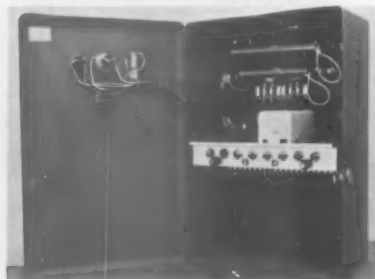
Formed of anodized aluminum, the suspension system is supported by 3/4-in. wide elastic fabric — adjustable for personal fit and secured with nickel-plated brass keepers, hooks, and D rings.

Composition of the rubber face-piece is designed to increase its chemical resistance to facial oils, solvents, and thinners. The valve seat, is made of cyclocac to prevent distortion and deterioration from sunlight or solvents.

The exhalation valve features low resistance and a valve cover to guard against accidental opening by ambient winds or compressed air currents.

(Item 166)

### Fire Warning System Uses Coded Alarm Signals



NOTIFIER CORPORATION, Lincoln, Neb., has announced its Underwriters' Laboratories listed CAFF-1 panel, designed to meet specifications which require a 120 volt a. c. fire alarm system.

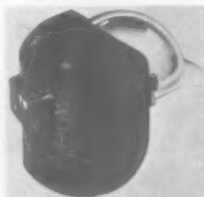
The CAFF-1 is provided with terminals so that it can be used in conjunction with an auxiliary trip

panel for transmitting non-coded or coded alarm signals to a remote station receiving panel.

The system consists of a single supervised signal initiating circuit, common control equipment, an electrically supervised alarm bell line, and a trouble bell line. It uses one standard 120 volt a. c. 60 cycle current source for system operating power, and another such source for trouble power.

The panel is designed to give a trouble signal in event of an "open" or a "ground." Other features include: Signal initiating circuit wiring is electrically supervised to the last signal initiating device, without returning loop wiring to panel. Alarm bell line is electrically supervised, and will ring from one to ten 12 volt a. c. bells. Coded manual fire alarm stations on the signal initiating circuit allow local coded alarm operation. All relay equipment is sealed in metal plug-in units carrying a five-year warranty.

(Item 167)



**Cap Attachments Use Single Mount Block**

AMERICAN OPTICAL COMPANY, Safety Products Div., Southbridge, Mass., has started production of welding helmets and goggles for attachment to its Dura-Guard safety cap.

Attachment of these units is accomplished by use of an insulating mounting block. The block can be connected to the company's standard cap without drilling holes.

(Item 168)



**Grating Aids Footing**

BUSTIN STEEL PRODUCTS, INC., Dover, N. J. has developed the "Protecto" grating for stairways and catwalks. The open construction and serrated surface are designed to aid footing in all weather conditions. Normal foot pressure can break an ice coating on the grating.

(Item 169)



**Cup Coating  
Utilizes  
Foam-Paper  
Bond**

LILY-TULIP CUP CORP., New York, has announced its China-Cote Plus insulated hot drink vending cup. The vending cup is made by a process in which a flexible sheet of foam styrene is bonded to a sheet of paper.

The method of utilizing the combination of polystyrene foam and paper is designed to give the cup high rigidity. It holds its shape when filled with a high temperature beverage, but can be crushed and disposed of after use. All drinking surfaces of the cup are lined. The lining has a silver opalescence.

Printed in brown color, with a white petal design, the cup is available in the 7 oz. size.

(Item 170)



**Pickle Chain  
Uses  
Full Stud  
Construction**

American Chain Div., AMERICAN CHAIN & CABLE CO., INC., York, Pa., has developed a full stud acid pickle chain. Designed to render optimum service in applications involving high temperatures and sulphuric or nitric acid pickling operations, a full stud is incorporated as an integral part of each link. The full stud construction provides an increase of 31 per cent in recommended working load limits.

The chain resists concentrations of sulphuric acid up to 20 per cent and temperatures up to 200 degrees F.

It is available in sizes 9/32 in. through 3/4 in. in continuous lengths and in a variety of chain assemblies.

(Item 171)

## Headgear Seals Airtight in 4 Seconds



WILLSON PRODUCTS, Reading, Pa., has designed a Tite-Seal headgear said to make any gas mask airtight in four seconds. Two ratchet settings provide adjustment of fit. Headgear fits under fire helmets or safety hats. The headgear is Bureau of Mines-approved with Scotttamic facepiece.

(Item 172)



**Safety Hats  
Made of  
Poly-  
carbonate**

MINE SAFETY APPLIANCES CO., Pittsburgh, has developed a line of safety hats and caps made from polycarbonate materials.

The polycarbonate head protection will be made in three models: firemen's helmets, electric utility hats and caps, and general industrial hats and caps. Polycarbonate is a thermoplastic material, said to combine the impact strength of metal and the natural resilience of plastics.

The hats and caps feature a single-ridge design to help in deflecting the force of a falling object. The ridge, extending from front to rear of the helmet, is said to reduce the possibility of forces being trapped. The electric utility hats and caps are said to retain their dielectric strength under severe impact, and at temperatures ranging from 100 degrees below zero to 270 degrees above.

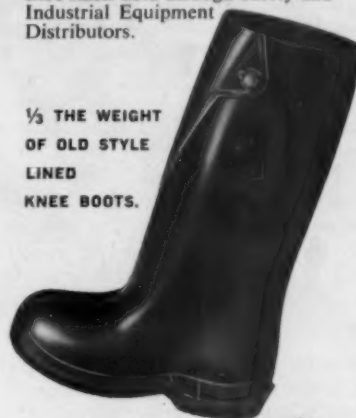
Both the general industrial helmet—called the Topgard safety hat—and the Shockgard Mark II electric utility helmet are made in nine colors. The Topgard firemen's helmet is made in three colors.

(Item 173)

## NEOPRENE or ALL RUBBER

OVER-THE-SHOE KNEE-HI CLOSURE BOOTS

In DuPont neoprene to resist grease, acids, solvents, etc. or in all-rubber, (no plastic) these boots are designed for wear in chemical plants, refineries, dairies and wherever maximum protection is required. Easily washed inside and out. Fit snug around heel yet special construction affords "bellows" action for circulation and ventilation with every step. 4 sizes fit all work shoe sizes. Sold through Safety and Industrial Equipment Distributors.



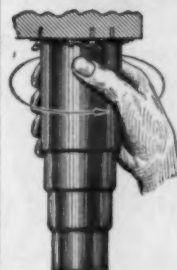
**1/3 THE WEIGHT  
OF OLD STYLE  
LINED  
KNEE BOOTS.**

In neoprene  
\$11.25

In rubber  
\$7.95

**TINGLEY**  
RUBBER CORPORATION  
RAHWAY 16, NEW JERSEY • Est. 1898

## Guide Pin Covers



### PROTECT OPERATOR AND GUIDE PINS

Effectively guard against injury to operator, die and press on operations where bushings leave the guide pins. Protect pins and bushings from chips and dirt when entire pin and bushing are covered. Inexpensive, easy to attach.

Felt Oiler Ring in  
top units provides  
POSITIVE  
lubrication.



WRITE TODAY FOR DESCRIPTIVE FOLDER AND PRICE LIST

Name \_\_\_\_\_

Address \_\_\_\_\_

Title \_\_\_\_\_

**Wiesman Manufacturing Co.**

31 South St. Clair Street • Dayton 2, Ohio

CIRCLE 87 ON READER CARD



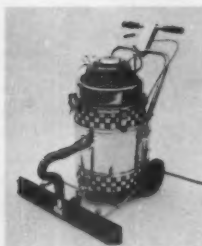


**Hat Cover  
Is  
Fluorescent  
Red**

The Ray-D-8 fluorescent red slip cover designed for use with hard hats has been introduced by INDUSTRIAL PRODUCTS Co., Philadelphia. The slip cover is part of a line of safety vests, warning flags, caps and other devices made of high-visibility vinyl coated nylon.

The cover has an elastic edge which enables it to be slipped over the rim of any make hard hat. The visibility of the fluorescent material enables him to be seen at longer distances by machine operators or approaching vehicles.

(Item 174)



**Pick-Up Unit  
Drys Floor**

The HILLARD CHEMICAL Co., St. Joseph, Mo., claims scrubbing time and labor can be reduced from 50% to 60% on large areas through the use of a water pick-up unit.

As fast as the operator can walk, scrub water disappears and a 30-in. swath is left dry and ready for re-coating. Drying time is minimized and permits uninterrupted floor treatment operations.

A siphon attachment is included with each unit to permit fast draining and cleaning of tank.

(Item 175)



**Hoist Suits  
Many Needs**

AMERICAN CHAIN & CABLE Co., INC., Wright Hoist Div., York, Pa. has announced production of its mod-

el W-1 electric hoist. Compact in design, the W-1 is available in capacities from one to three tons with single, two-speed or variable speed controls; lug base mounting; plain, geared or motorized trolleys; two or four part reeving. For close headroom applications it is available in one to two ton capacities. It can be equipped with an overload cut-off.

Motors are fully enclosed, ball-bearing type, built to NEMA specifications, rated on a basis of 30-minute duty cycle. Anti-friction precision ball or roller bearings, mounted in splash oil lubricated gear chamber, support both ends of all shafts. External expanding jaw, self-adjusting cam type motor brake is operated by a solenoid. The drum is all steel.

(Item 176)



**Welding  
Glove Is  
Reversible**

GLOVE MFG. Co., Chicago, has announced its "Solo" glove. It has a patented reversible feature which makes the glove fit either hand with equal comfort. It can be purchased singly instead of pairs because right and left are identical — front and back are designed alike.

The glove is made of tanned cowhide treated for softness and shrink-resistance. The color is sea green. Cuff is of flame-resistant fire chief duck in olive drab with bright red binding.

(Item 177)

#### **Face Mask Features One-piece Construction**

WILSON PRODUCTS, Reading, Pa., has developed a one-piece resilient rubber face-mask having tapered, "feather-edge" contact all around. The Monomask 600A is U.S. Bureau of Mines approved for protection against dusts, pneumoconiosis-producing mists and chronic-acid mists. A single filter of treated felt.

The unit includes molded rubber headband and five extra filters, packed in plastic case.

(Item 178)



**Ear Value  
Improved**

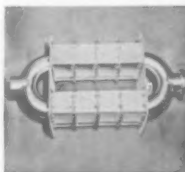
An improvement is announced in the Lee Sonic EAR-VALV, hearing protector. That portion of the device which enters the ear has been shortened and completely redesigned to insure perfect fit with greater comfort for all ear openings, regardless of size or shape.

The Lee Sonic EAR-VALV is a tiny ear-insert device which acts as a mechanical sound pressure control. It operates automatically to remove the harm from noise without plugging the ears.

It permits wanted sounds to pass through into the ear but dissipates the excessive energy of large volume noise.

SIGMA ENGINEERING Co., 1608 Hillhurst Ave., Los Angeles 27, Calif.

(Item 179)



**Purifiers  
Feature  
Catalytic  
Design**

OXI-CATALYST, INC., Berwyn, Pa., has developed a line of catalytic exhaust purifiers designed to eliminate a high percentage of carbon monoxide from gasoline, LP gas and diesel-powered vehicles. Models available are: the OCM purifier, designed for unleaded gasoline and LP gas-powered vehicles; the Oxy-Catalyst "Dieseler", for tractors and other four cycle diesel equipment operating under load conditions; the "Oxy-Muffler", which operates on leaded gasoline.

(Item 180)



## NEWS ITEMS

New personnel, new plants and facilities, other newsworthy events in the safety product manufacturing and merchandising fields.



**Chester H. Sanderson**

CHESTER H. SANDERSON, 54, for the past 12 years advertising manager, Mine Safety Appliances Co., Pittsburgh, Pa. died of a heart ailment October 1, 1961.

Sanderson had been with the company 34 years.

He was a member of the Association of Industrial Advertisers.



**Sawyer-Tower Names V.P.**

Sawyer-Tower, Inc., Watertown, Mass., has announced the promotion of BRADFORD S. RITCHIE from technical director to vice president and technical director of the firm.

### **Eastern Welding Is Ampco Weldrod Distributor**

EASTERN WELDING EQUIPMENT Co., Inc., Westbury, N. Y. will serve as the Long Island and New York City distributor of Ampco weldrod products.

The firm will handle Ampco's line of bronze welding electrodes, bare filler rods and wire in spooled and coiled forms.

### **Masury-Young Co. Holds Sales Managers' Meeting**



Masury-Young officials who attended the annual mid-summer sales managers' meetings are (left to right) ROBERT D. LANE, corporate secretary; W. V. VOORHEES, regional sales mgr., Chicago, Ill.; DOUGLAS HANCOCK, national sales mgr., Myco Branch; DONALD M. KING, president; LOUIS W. DEE, executive vice president; RAYMOND R. CAMPBELL, treasurer; G. R. DENAPOLI, vice president in charge of research and production; and JOSEPH A. POZYCKI, regional sales mgr., Kansas City, Mo. The status of the company was reviewed and long-range objectives were discussed during the week-long meeting.



**Rowan Is Tokheim Sales Manager**

DAVID C. ROWAN, formerly special representative of the Tokheim General Products Div., has been named assistant sales manager of the Chicago district.

Rowan will maintain headquarters at the Chicago office, 332 S. Michigan Ave. where he will be concerned primarily with the supervision of Tokheim sales representatives in the Chicago district. Rowan served as special representative of Tokheim General Products Div. since March, 1961. His association with Tokheim dates from 1950.



**Miles Named Sellstrom Factory Rep.**

CECIL MILES has been appointed southwestern factory sales representative, Sellstrom Mfg. Co., Palatine, Ill. Miles will cover Texas, Louisiana, Arkansas, New Mexico and Oklahoma.

A graduate of Southern Methodist U. Miles saw wartime service in the U. S. Merchant Marine.

### **Beryllium Corp. Appoints Two Plant Managers**

WALTER J. KOSHUBA has been appointed plant manager of the Nuclear Div., Beryllium Corp., Hazleton, Pa. PHILIP H. SYNDER has been appointed plant manager of the Alloy Div., Reading, Pa. Koshuba was formerly manager of technical production for the Aircraft Nuclear Propulsion Div. of General Electric Co., Evandale, Ohio.

From 1947 to 1951 Koshuba was manager of the materials laboratory for the Fairchild E & A Co., Oak Ridge, Tenn. He also served as general superintendent for the Solar Aircraft Co., Des Moines, Iowa in 1946. From 1941 to 1945 he was associated with the Allis-Chalmers Mfg. Co. as Metallurgical engineer, superintendent, and as a research engineer. He holds a B.S. degree in metallurgical engineering from the University of Minnesota.

Snyder, who has been production manager of the Nuclear Div. fabrication plant since April, previously served as manager of manufacturing for the Utrilon Corp., NYC. From 1954 to 1959 he served as general manager of the Electric Autolite Co. From 1947 to 1954, Snyder was a staff engineer for Western Electric Co.'s Buffalo plant.

Snyder is a graduate of Purdue University with a B.S. degree in mechanical engineering.



**Curran Is  
Sales Mgr.  
for IPCO**

EDWIN H. CURRAN has been named sales manager of Industrial Products Co., Philadelphia, and their subsidiary IPCO Safety Products Co., Orange, N. J. Curran has assumed the sales management responsibilities formerly administered by R. W. Shipman, who continues to direct the company's activities in the industrial safety field.

Curran attended St. Joseph's College, Philadelphia, and was a sales representative from 1950 to 1958 with Minnesota Mining and Manufacturing Co., Safety Floor and Deck Covering Products Div. In November 1958, he joined the sales staff of Industrial Products Co. covering Bucks and Northampton counties in Pennsylvania and Mercer county, N.J.

Curran is a member of the American Society of Safety Engineers and the Penn-Jersey Safety Council.



**Fiber-Metal  
Names  
Sales Rep.**

JACK CHANEY has joined the sales staff of Fibre-Metal Southeast, Inc., Decatur, Ga.

He attended Georgia Military College and has completed sales training at the Fibre-Metal Products Co., Chester, Pa. and Glendale Optical Co., Valley Stream, L.I.

Chaney will call on and work with customers in southern Alabama, southern Georgia and Florida.

#### **Seat Belt Council Completes Organization**

At a meeting in Las Vegas, Nev. July 29-30, the recently formed AMERICAN SEAT BELT COUNCIL completed necessary operational details, including adoption of formal by-laws, a basic budget covering administrative and general operating expenses, and

election of officers and members of the executive committee.

Members elected to the executive committee include: C. H. PULLEY, president of Irving Air Chute Co.; R. L. DAVIS, vice president of Davis Aircraft Products, Inc.; S. J. KULWIN, president, Jeffrey-Allan Industries, Inc.; R. C. BROWN, president, Ray Brown Automotive; W. A. LEONARD, vice president sales manager, Auto-Craft Mfg. Co.; CARL A. RUPERT, president, Rupert Safety Belt Co.; JOHN A. DEANGELIS, president, Murdock Webbing Co.; G. M. ELIAS, vice president, Narricot Corp.; WILLIAM LOWNDES, president, Southern Weaving Co.; and RUSSEL J. NEFF, vice president, Phoenix Trimming Co. Two additional members representing automotive seat belt hardware manufacturers will be elected at a later date.

Officers of the council are: president, C. H. PULLEY; first vice president, RUSSEL J. NEFF; second vice president, R. C. BROWN.

The members received a progress report on the proposed test and seal of approval program which will be designed to insure that belts offered for sale to the public meet SAE standards on *Motor Vehicle Seat Belt Assemblies*, the latest issue of which is SAE J4. Pending finalization of this program, the council plans to develop a list of those belts manufactured by its members which are certified through tests by independent laboratories, to meet SAE J4 specifications. The list will be distributed through public interest organizations. Those members of the council who produce automotive seat belt webbing have initiated a joint test program to find optimum test procedures for determining elongation.



**Am. Hoist  
Names  
Industrial  
Sales Mgr.**

American Hoist & Derrick Co. of St. Paul, Minn. has announced the appointment of RICHARD E. MCCOACH to the position of manager of industrial sales. McCoach previously had been with Industrial Brownhoist Corp. of Bay City, Mich. as general sales manager.



**Williams Is  
Eye Shield  
Sales  
Engineer**

ROGER W. WILLIAMS has been appointed a member of the sales engineering staff, Chicago Eye Shield Co. Williams is a graduate of Ohio Wesleyan U. For several years he was employed as a research engineer at Battelle Memorial Institute, and he has ten years background in safety engineering work. Williams is a member of the Society of Automotive Engineers and the American Industrial Hygiene Association.



**Am. Hoist  
Names  
Wicker**

ROBERT L. WICKER has been appointed manager of distributor sales for American Hoist & Derrick Co., St. Paul, Minn.

Wicker, a native of California and a graduate from the College of the Pacific, brings to American Hoist a background of experience in the distributor field of the construction equipment industry. He has been general sales manager of Dart Truck and has served in the same capacity with Bros. Inc., Minneapolis.

#### **3M Co. Elects Heltzer as V.P.**

HARRY HELTZER has been elected president of Minnesota Mining and Manufacturing Co. Heltzer, who has been with 3M since 1933, has been general manager of the reflective products division since 1952 and division vice president since 1959.

Heltzer will continue to be responsible for the operation of the reflective products division. In addition he will assume over-all responsibility for National Advertising Co.

**Gordon Blumenfeld  
Is Camcone President**

GORDON BLUMENFELD has been appointed president. Camcone Products, Inc. Blumenfeld's background lies in administrative, marketing and engineering management. Blumenfeld will devote his attention to marketing and product development activities.



**AISE Co.  
Names  
Sales Rep.**

SWORDS SUPPLY SERVICE, with headquarters in Atlanta, will represent American Industrial Safety Equipment Co., Cleveland, in the south-eastern territory. P. A. Swords Jr., who heads the firm, was associated with Linde Air Products Co., Atlanta, then joined Southern Oxygen Co. in Roanoke, Va. and most recently was in the employ of Ford Supply Co.

**Granet Corp. Appoints  
Northwest Sales Rep.**

MORT DANIEL, of Daniel Sales Co., Denver, has been appointed sales representative for The Granet Corp., Framingham, Mass., to cover Colorado, Wyoming, New Mexico, and northwest Nebraska. Daniel will be calling on and selling only through industrial jobbers and distributors in this area.

**Papp to Handle  
Acousti-Booth Sales**

GEORGE E. PAPP has been named to handle Acousti-Booth sales for the Burgess-Manning Co., Architectural Products Div.

Papp, a Kent State University graduate, has been vice president in charge of sales for Prutton Corp., Cleveland, and a sales engineer and district manager for Johnson Wax Co. in their Industrial Products Div.



"I need a  
good film  
on safety..."

Whatever your safety-film need—a film on first aid, on house-keeping, on atomic energy, on driver attitudes, on bicycles and scooters—you'll probably find it answered in the

## 1961 NATIONAL DIRECTORY OF SAFETY FILMS

... for this 56 page, file-size catalog lists and describes more than 1100 motion pictures, film strips, TV spots and clips on 94 distinct accident prevention subjects including fire prevention, first aid and civil defense. And, a special 6 page section tells where each film may be quickly obtained. You'll be using safety films during the coming months... spare yourself time and trouble by having a copy of the Directory on your desk. Use the order form below.



Send to:

**NATIONAL SAFETY COUNCIL**  
425 N. Michigan Ave., Chicago 11, Illinois

**National Directory of Safety Films (029.10)**

	1	2 to 9	10-99	100-499	500-
price each	\$2.50	\$1.90	\$1.50	\$1.20	\$1.00

Prices subject to 10% discount to National Safety Council Members.

Send \_\_\_\_\_ copies to

NAME \_\_\_\_\_

ORGANIZATION \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ zone \_\_\_\_\_ state \_\_\_\_\_

☐ Bill me

☐ Bill firm

☐ Amount enclosed

# advertisers' index

	Reader Card No.	Page No.		Reader Card No.	Page No.		Reader Card No.	Page No.
Acme Protective Equipment Co. ....	62	106	Goodrich, B. F. (Hycar Div.) .....	55	101	Packwood, G. H. Mfg. Co. ....	63	107
Gas masks			Safety soles			Dermatitis protection		
Acro Metal Stamping Co. ....	66	108	Granet Corp. ....	68	110	Patent Scaffolding Co. ....	24	57
Machine guarding			Industrial gloves			Ladders		
American Abrasive Metals Corp. ..	65	108				Pioneer Rubber Co. ....	52	98-99
Abrasive flooring						Industrial gloves		
American Chain & Cable Co. ....			Harrington Co. ....	93	74	Pittsburgh Plate Glass Co. ....	12	17
Chain slings	24	57	Safety hooks			Industrial paints		
Wright Hoists	43	83	Haus of Krause	49	89	Plasticsmith, Inc. ....	77	114
American Film Producers	89	109	Safety shoes			Disposable work gloves & boots		
Safety films			Haws Drinking Faucet Co. ....	72	112	Practical Mfg. Co. ....	74	113
American Optical Co. ....	3	B.C.	Emergency showers			Parts washer		
Emergency first aid			Horizon Industries	98	121	Prairie State Products	94	79
American Tel. & Tel., Co. ....	—	87	Bowl cleaner			Safety signs		
Ansul Chemical Co. ....	2	I.B.C.	Hygiene Research, Inc. ....	97	119			
Fire extinguishers			Dermatitis protection					
Apex Safety Products	54	100	Hy-Test Safety Shoe Div. ....	4	1	Ready Made Sign Co. ....	78	115
Safety hats & caps			Safety shoes			Safety signs		
						Rockwood Sprinkler Co. ....		
Bausch & Lomb Inc. ....	18	49	International Latex Corp. ....	90	81	Fire fighting equipment	26	59
Ear cups			Instant ice-pak			Portable breathing equipment	30	66
Beam's Mfg. Co. ....	92	80	Iron Age Safety Shoe	27	61			
Safety belts			Safety shoes					
Bethlehem Steel Co. ....	39	77				Safety Box Toe Co. ....	1	I.F.C.
Wire rope slings						Steel toes for safety shoes		
Brett-Guard Corp. ....	88	109	Johnson Ladder Shoe Co. ....	56	101	Safety Tower Ladder	96	122
Saw guards			Ladder shoes			Ladder climbing device		
Bullard, E. D. Co. ....	5	3	Jomac, Inc. ....	46	86	Scott Aviation Corp. ....	47	70
Winter liners			Safety clothes			Respiratory equipment		
			Junkin Safety Appl. Co. ....	70	111	Seron Mfg. Co. ....	53	100
			Saf-Sight shield			Eyeglass holder		
Calumet Steel Castings Corp. ....	80	116				Setlow, M. & Son	35	72
Wheel blocks						Safety clothes		
Chicago Eye Shield Co. ....	7	7	Kidde, Walter & Co., Inc. ....	91	68	Silicone Paper Co. ....	11	15
Safety glasses			Fire extinguishers			Lens cleaner		
Clark, David Co., Inc. ....	20	52	KleerFlo Co. ....	74	113	Sigma Engineering Co. ....	85	120
Ear protectors			Parts washer			Hearing protection		
Coppus Engineering Corp. ....	69	110				Singer Glove Mfg. Co. ....	84	120
Portable ventilator exhausters						Industrial gloves		
Crosby-Laughlin	17	48	Lehigh Safety Shoe Co. ....	10	12-13	Standard Safety Equipment Co. ....	58	103
Shackles			Safety shoes			Winter liner		
			Lily Tulip Cup Corp. ....	6	4-5	Standard Signs, Inc. ....	50	90
			Cups & containers			Safety signs		
Detex Watchclock Corp. ....	38	76				Staplex Co. ....	75	113
Watchclock system						Air sampler		
DuPont, E. I. de Nemours & Co. .	33	69	Maico Electronics Corp. ....	19	50-51	Stephenson Corp. ....	79	115
Flame retardant fabric			Audiometer			Resuscitator		
Anti-slip floor wax	8	9	McAn, Thom Safety Shoes	21	53	Stonehouse Signs, Inc. ....	44	84
			Safety shoes			Safety signs		
			McWhyte Co. ....	36	65	Surgical Mechanical Research, Inc.	31	66
Economy Engineering Co. ....	61	106	Wire rope slings			Ear stoppers		
Hi-Reach platform			Medical Supply Co. ....	57	102			
Edmont, Inc. ....	16	46-47	Stretcher kit					
Work gloves			Merrill Brothers	64	107	Taylor Chain Co. ....	59,60	104,105
Ellwood Safety Appl. Co. ....	71	111	Material handling devices			Sling chain & hooks		
Foot, leg, and toe protection			Metrox, Inc. ....	40	78	Tingley Rubber Corp. ....	86	123
Employers Mutual of Wausau	45	85	Portable medical oxygen			Lined knee boots		
Workmen's compensation			Mine Safety Appl. Co. ....	32	54-55			
			Safety hats					
Flents Products Co., Inc. ....	81	116	Modern Machine Tool, Co. ....	76	114			
Ear Stopples			Safety drill table			U. S. Borax Corp. ....	37	75
Fyrepel Products Inc. ....	83	118	McGraw-Hill Book Co. ....	14	43	Weed killer		
Work clothing			Accident prevention manual					
Gamewell Co. ....	9	11	National Chemsearch Co. ....	29	73	Wiesman Mfg. Co. ....	87	123
Fire alarm systems			Safety solvent			Guide pin covers		
Geopres Wringer, Inc. ....	73	112	National Foam System Inc. ....	15	45	Wilkins Co., Inc. ....	95	79
Maintenance equipment			Fire protection systems			Lens cleaning station		
Gets-A-Life Co. ....	82	118	National Marker Corp. ....	23	56	Willson Products Div. ....	28	62-63
Fluorescent lamp slip-on guard			Location markers			Head-eye-ear protection		
Gejer, Inc. ....	25	58	Norton Co. ....	48	88	Wyandotte Chemicals Corp. ....	32	67
Dermatitis protection			Abrasive flooring			Eliminate icy work surfaces		

advertising staff  
425 N. Michigan Ave.  
Chicago 11, Ill., Whitehall 4-4800

advertising manager:  
Douglas W. Sturgeon

advertising production manager:  
John Tribble

## advertising sales representatives

Chicago: MacIntyre-Simpson & Woods  
75 E. Wacker Drive, Central 6-1715

New York: MacIntyre-Simpson & Woods  
101 Park Ave., LExington 2-0020

San Francisco: Duncan A. Scott & Co.  
85 Post St., Garfield 1-7950

Los Angeles: Duncan A. Scott & Co.  
1901 W. 8th St., Hubbard 3-6211





Here's a check list  
of types of  
information  
available  
quickly ...  
free of charge

#### ● PRODUCTS ADVERTISED

The Advertisers' Index  
on the opposite page  
briefly describes prod-  
ucts advertised and lists  
Key Numbers.

#### ● NEW SAFETY EQUIPMENT

Check this special sec-  
tion for newly intro-  
duced or improved  
safety products and  
services that you want to  
know more about.

#### ● PRODUCT LITERATURE

Following the New  
Safety Equipment Sec-  
tion you'll find a listing  
of catalogs, special re-  
ports, other printed ma-  
terial that is valuable as  
reference data.

#### IMPORTANT

Be sure to print your  
name, title, company  
and address legibly  
on Reader Card be-  
fore mailing.

GET  
MORE  
INFORMATION  
FAST ...

ON SAFETY  
PRODUCTS  
& SERVICES  
SHOWN  
IN THIS  
ISSUE

National  
**SAFETY  
NEWS**

## Reader Service

Send now for free literature about the safety  
products and services in this issue.

You'll find Key Numbers throughout this  
issue. To get more information, just circle  
the Numbers of the products you're inter-  
ested in on one of the Reader Cards below.  
Fill out the mailing information — detach  
the Card — and put it in the mail. Product  
literature will be sent to you free and without  
obligation by the manufacturer.

Please send me information on items circled below **NOVEMBER 1961**  
use before January 31, 1962

1	16	31	46	61	76	91	106	121	136	151	166	181	196	211	226	241	256	271	286	301	316
2	17	32	47	62	77	92	107	122	137	152	167	182	197	212	227	242	257	272	287	302	317
3	18	33	48	63	78	93	108	123	138	153	168	183	198	213	228	243	258	273	288	303	318
4	19	34	49	64	79	94	109	124	139	154	169	184	199	214	229	244	259	274	289	304	319
5	20	35	50	65	80	95	110	125	140	155	170	185	200	215	230	245	260	275	290	305	320
6	21	36	51	66	81	96	111	126	141	156	171	186	201	216	231	246	261	276	291	306	321
7	22	37	52	67	82	97	112	127	142	157	172	187	202	217	232	247	262	277	292	307	322
8	23	38	53	68	83	98	113	128	143	158	173	188	203	218	233	248	263	278	293	308	323
9	24	39	54	69	84	99	114	129	144	159	174	189	204	219	234	249	264	279	294	309	324
10	25	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250	265	280	295	310	325
11	26	41	56	71	86	101	116	131	146	161	176	191	206	221	236	251	266	281	296	311	326
12	27	42	57	72	87	102	117	132	147	162	177	192	207	222	237	252	267	282	297	312	327
13	28	43	58	73	88	103	118	133	148	163	178	193	208	223	238	253	268	283	298	313	328
14	29	44	59	74	89	104	119	134	149	164	179	194	209	224	239	254	269	284	299	314	329
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330

NAME \_\_\_\_\_ POSITION \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY & STATE \_\_\_\_\_

Please send me information on items circled below **NOVEMBER 1961**  
use before January 31, 1962

1	16	31	46	61	76	91	106	121	136	151	166	181	196	211	226	241	256	271	286	301	316
2	17	32	47	62	77	92	107	122	137	152	167	182	197	212	227	242	257	272	287	302	317
3	18	33	48	63	78	93	108	123	138	153	168	183	198	213	228	243	258	273	288	303	318
4	19	34	49	64	79	94	109	124	139	154	169	184	199	214	229	244	259	274	289	304	319
5	20	35	50	65	80	95	110	125	140	155	170	185	200	215	230	245	260	275	290	305	320
6	21	36	51	66	81	96	111	126	141	156	171	186	201	216	231	246	261	276	291	306	321
7	22	37	52	67	82	97	112	127	142	157	172	187	202	217	232	247	262	277	292	307	322
8	23	38	53	68	83	98	113	128	143	158	173	188	203	218	233	248	263	278	293	308	323
9	24	39	54	69	84	99	114	129	144	159	174	189	204	219	234	249	264	279	294	309	324
10	25	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250	265	280	295	310	325
11	26	41	56	71	86	101	116	131	146	161	176	191	206	221	236	251	266	281	296	311	326
12	27	42	57	72	87	102	117	132	147	162	177	192	207	222	237	252	267	282	297	312	327
13	28	43	58	73	88	103	118	133	148	163	178	193	208	223	238	253	268	283	298	313	328
14	29	44	59	74	89	104	119	134	149	164	179	194	209	224	239	254	269	284	299	314	329
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330

NAME \_\_\_\_\_ POSITION \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY & STATE \_\_\_\_\_

National  
**SAFETY  
NEWS**

National  
**SAFETY  
NEWS**

National  
**SAFETY  
NEWS**

National  
**SAFETY  
NEWS**

National  
**SAFETY  
NEWS**

National  
**SAFETY  
NEWS**

## ... your guide to products for your plant safety program

Within the pages of National Safety News you'll find more safety products advertised than in any other safety magazine.

To get more information about any product advertised use one of the Reader Cards below. Just circle the Key Numbers of the products you'd like more information about and drop the Card into the mail —no postage necessary (if mailed in U.S.A.). Product literature sent free without obligation.

### BUSINESS REPLY MAIL

no postage stamp necessary if mailed in the United States

postage will be paid by

**NATIONAL SAFETY NEWS**  
425 N. MICHIGAN AVENUE  
CHICAGO 11, ILLINOIS

First Class  
Permit No. 834  
Chicago 11, Ill.

**NO POSTAGE  
REQUIRED**

JUST TEAR OUT AND MAIL

### IMPORTANT

PRINT CLEARLY,  
FILL IN YOUR NAME,  
TITLE, FIRM NAME,  
AND ADDRESS.

CIRCLE KEY  
NUMBERS ON  
OPPOSITE SIDE  
OF CARD.

### BUSINESS REPLY MAIL

no postage stamp necessary if mailed in the United States

postage will be paid by

**NATIONAL SAFETY NEWS**  
425 N. MICHIGAN AVENUE  
CHICAGO 11, ILLINOIS

First Class  
Permit No. 834  
Chicago 11, Ill.

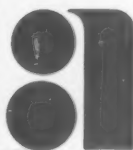
**NO POSTAGE  
REQUIRED**

JUST TEAR OUT AND MAIL

NOW...A FIRE EXTINGUISHER WITH  
THE UNIQUE "SPARE" FEATURE—IN  
SPHERICAL OR CYLINDRICAL SHAPE.

In 1959 Ansul created and introduced  
the exciting idea of instant, on-the-spot  
recharging with its popular MONITOR.  
Now MERRIMAC—Ansul's new cylin-  
drical 2¾ lb. dry chemical fire extin-  
guisher, like the spherical MONITOR,  
features a throw-away shell and a spare  
charge that screws in like a light bulb.  
And like the MONITOR, it's Coast  
Guard Approved...carries a U.L. rating  
of 4 B:C...is admirably suited for the  
protection of boats, homes, autos,  
trucks, summer cottages. The only  
significant difference between the  
MERRIMAC and the MONITOR is  
shape—there are some places where  
the cylindrical MERRIMAC will fit  
better; others where the spherical,  
compact MONITOR is a more logical  
choice. The MERRIMAC also carries the  
same low list price as the MONITOR:  
\$15.95...the same attractive discount  
schedule for marine dealers. For addi-  
tional information or to place your  
initial order contact your marine jobber  
...or write to us directly.

CIRCLE 2 ON READER CARD



ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN





## NEWS FROM AO

1

New Hear-Guards protect ears . . . reduce harmful noise but let in normal conversation. Soft, sanitary, molded white plastic inserts, available in 3 sizes.

2

New unit first aid kits, with blaze orange lettering you can really see . . . 4 sizes designed for ease of location in an emergency.

3

Now AMBU® Rescue Breathing Equipment, a portable resuscitator that can be used anywhere, goes to work in seconds, simple enough for anyone to operate.

## New: for daily protection and emergency first aid

Here are three recent AO introductions which are all-important to a complete safety program. New Hear-Guards offer noise attenuation superior to any other type of ear plugs now on the market. Easy to insert and comfortable to wear, three sizes (small, medium and large) in different colored carrying cases insure the right fit for each wearer.

You can't miss the blaze orange letters on the new 10, 16, 24 and 36 unit first aid

kits. Easy to locate, the rugged steel cases have built-in wall brackets, carrying handles and snap locks. Rubber gaskets seal out dirt and moisture. Each kit contains the highest quality first aid materials, with individually marked packages and instructions on use.

When artificial respiration is needed, every second counts . . . and AO's new AMBU Rescue Breathing Equipment is ready to go to work fast. Portable kit

contains foot-operated suction pump, to clear throat and mouth if needed, and easy-to-use resuscitator. Requires no electricity or other connections; the ideal supplement to mouth-to-mouth rescue breathing.

For further information on any item, contact your nearest AO Safety Products Representative, or write for detailed product literature.

\*AMBU is a Trade Mark

Your *Surest* Protection . . . AO SURE-GUARD Products

American  Optical  
COMPANY

SAFETY PRODUCTS DIVISION • SOUTHBRIDGE, MASSACHUSETTS

CIRCLE 3 ON READER CARD



